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Diagnosing Drivers of Spatial Exclusion

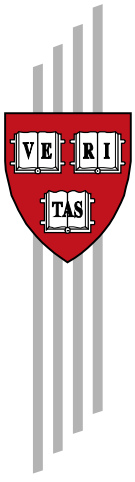
Places, People, and Policies in South Africa's Former Homelands

Alexia Lochmann

CID Research Fellow and Graduate Student

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Diagnosing Drivers of Spatial Exclusion

Places, People, and Policies in South Africa's Former Homelands

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The Growth Lab at Harvard University

November 2022

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Executive Summary

This report analyzes the economic legacy of spatial exclusion in South Africa, focusing on the long-term effects of the former Bantustan policy. Through quantitative analysis, the report explores the spatial dimension of economic activity in South Africa and specifically how this particular spatial institution has continued to shape current economic outcomes, despite past and present attempts to reverse the effect. The report also identifies areas for further research and potential intervention to enable more effective economic inclusion of the former homeland areas of the country.

Despite improvements in access to social services and a significant decrease in poverty, the former homeland territories' labor market indicators significantly lag behind the rest of the country. The expansion of basic infrastructure (including electricity and communications) and public services (including education and health) since the end of apartheid has allowed the areas in the former homelands to largely converge to the rest of the country on a variety of dimensions of well-being. Nevertheless, employment rates in former homeland areas are still on average more than 20 percentage points below formal urban areas, with employment rates as low as 9%. Beyond very low participation in the labor market, wage income is also lower for comparable workers in tribal areas. Due to increasing migration allowing for household income sharing, as well as the expansion of the social grant system over last twenty years, the gap in household income between urban and tribal areas has become smaller than the gap in wage income. This has allowed for a reduction in the poverty gap. Yet, the gap in employment opportunities available locally remains very large.

Internal migration has allowed for individuals born in former homelands to move into employment in other geographical areas but has not contributed significantly to the development of former homelands themselves. Temporary internal migration is common in South Africa, and for South Africans born or living in the former homelands. Migration improves their likelihood of finding employment. Internal migration typically results in a significant increase in remittances for the migrant's household, and ultimately in an increase in the net household wealth. Migrants from former homelands are able to compete with migrants from other parts of the country in the labor market, encountering similar probabilities of employment, which suggests that the divergence in employment rates across the country is not driven by individual characteristics such as education or skills. Migration has ultimately been insufficient to offset the observed differences between geographical areas and facilitate convergence of economic outcomes across the country. The fact that the urban economy outside the former homelands is unable to provide employment for a larger share of job seekers and low evidence of knowhow transfer from return migrants suggests that a "people-based" approach is insufficient to understand and address the persistence of low employment in these regions of the country.

The former homelands are themselves highly heterogenous in terms of labor market outcomes, and differences are associated with the complexity of places' demographic and economic structure. Although the majority of municipalities that correspond to areas within former homelands borders are worse off in terms of employment than those outside these borders, there are differences in employment rates within these areas as high as 50 percentage points. Employment rates are strongly associated with demographic diversity, as proxied by the first language spoken by individuals, as well as by economic complexity, which measures the diversity of places' industry structure. Demographically and economically complex places

remain an exception however, in comparison to the rest of the country, which suggests persistent factors holding back a natural process of agglomeration.

Agglomeration has been held back by placed-based constraints such as a deficient urban structure and insufficient local economic infrastructure. Our research suggests that settlements in former homelands are insufficiently dense and poorly connected, resulting in high transportation costs for moving both labor and goods, and ultimately labor markets that are not dense enough to support diversified economic activity. The deficient provision of local economic infrastructure has added further difficulties in attracting new productive knowhow to former homeland areas. Underequipped local governments, in many cases missing adequate state capacity and relying on a redistributive system of transfers, have contributed to a vicious cycle of low economic activity, poor infrastructure, and low government revenues. Coordination failures leave little incentive for single firms to provide these specialized pieces of infrastructure on their own, ultimately resulting in a spatial equilibrium that does not facilitate convergence.

A policy strategy to accelerate convergence in the former homeland areas needs to directly tackle what is primarily a *place-based* problem. Since the end of apartheid, South Africa has implemented a range of policies to tackle its spatial inclusion challenge, but these have not corrected differences in economic activity. Our analysis suggests that people-based policies are unlikely to fully fix what is primarily a place-based problem, although the flow of return migrant knowhow and investments could be better facilitated. Transportation and urbanization reforms should be the focus of a spatial policy framework, as well as the development of capabilities at local level that facilitate the provision of local economic infrastructure. Given coordination failures – intensified by a low base of productive knowhow and lack of adequate economic infrastructure – it is unlikely that single pieces of infrastructure will make a difference or that a "build it and they will come" approach will suffice, which implies the need for a targeted approach that works closely with private sector. Improving productive knowhow in former homelands will require building adequate institutions for domestic investment promotion and to detect the unique needs of different places and provide the public-public coordination that is required for these needs to be met.

1. Introduction

Whereas spatial differences in economic performance are not unusual across countries, the *size* of the divergence in South Africa hints at specific barriers to spatial inclusion. South Africa today faces some of the world's highest rates of inequality and unemployment, which greatly vary in space.[1] At the province level, Gauteng's employment rate stood at 51 percent in 2011, while Limpopo's employment rate was half Gauteng's at 26 percent. At the municipality level, there is an even more pronounced contrast. Witzenberg in Western Cape had an employment rate of 60 percent in 2011, comparable to an advanced economy, whereas Msinga in KwaZulu-Natal, on the other end of the distribution, faced employment rates as low as 9 percent.

South Africa has a history of spatial exclusion associated with lasting unemployment and poverty. Until 1994, when apartheid policies were dissolved, large parts of the South African population were purposefully excluded from some of the country's most economically productive and prosperous regions. Spatial exclusion of apartheid occurred in many forms and many levels, including the creation of Bantustans — also known as "homelands" — which were large territories set aside to keep Black Africans politically and economically separated from the rest of the country. This type of exclusion can have long-lasting effects, as we know from literature that explains the legacy of historic differences in socio-economic environments (see Nunn, 2009 and related literature). One does not have to look hard to see the vestiges of many of these exclusion strategies today in South Africa.

The former homelands are characterized by high poverty and low, flat employment. Although there has been progress over time in terms of poverty alleviation and food security in former homelands areas, poverty rates remain significantly higher than in other parts of the country[2]. Figure 1 shows employment rates and the South African Multidimensional Poverty Index as defined by StatsSA at the municipality level, both constructed from the South African National Census of 2011.[3] The blue lines in Figure 1 represent the borders of former homelands areas. After nearly thirty years since the end of apartheid, and the end of policy-driven spatial exclusion, the former homelands areas still faced alarmingly low levels of employment and high levels of multidimensional poverty as compared to the rest of the country. While the poorest areas of South Africa — which tend to fall within former homelands areas — displayed some of the largest poverty reductions between 2001 and 2011, the same pattern is not evident when it comes to improvements in employment rates. Former homeland areas had the lowest employment rates in the country but did not see systematic improvement in the first decade of the 2000s, which was a period of strong economic growth in South Africa.[4]

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[1] See, among others, Scott (2009), Chatterjee et al. (2021).

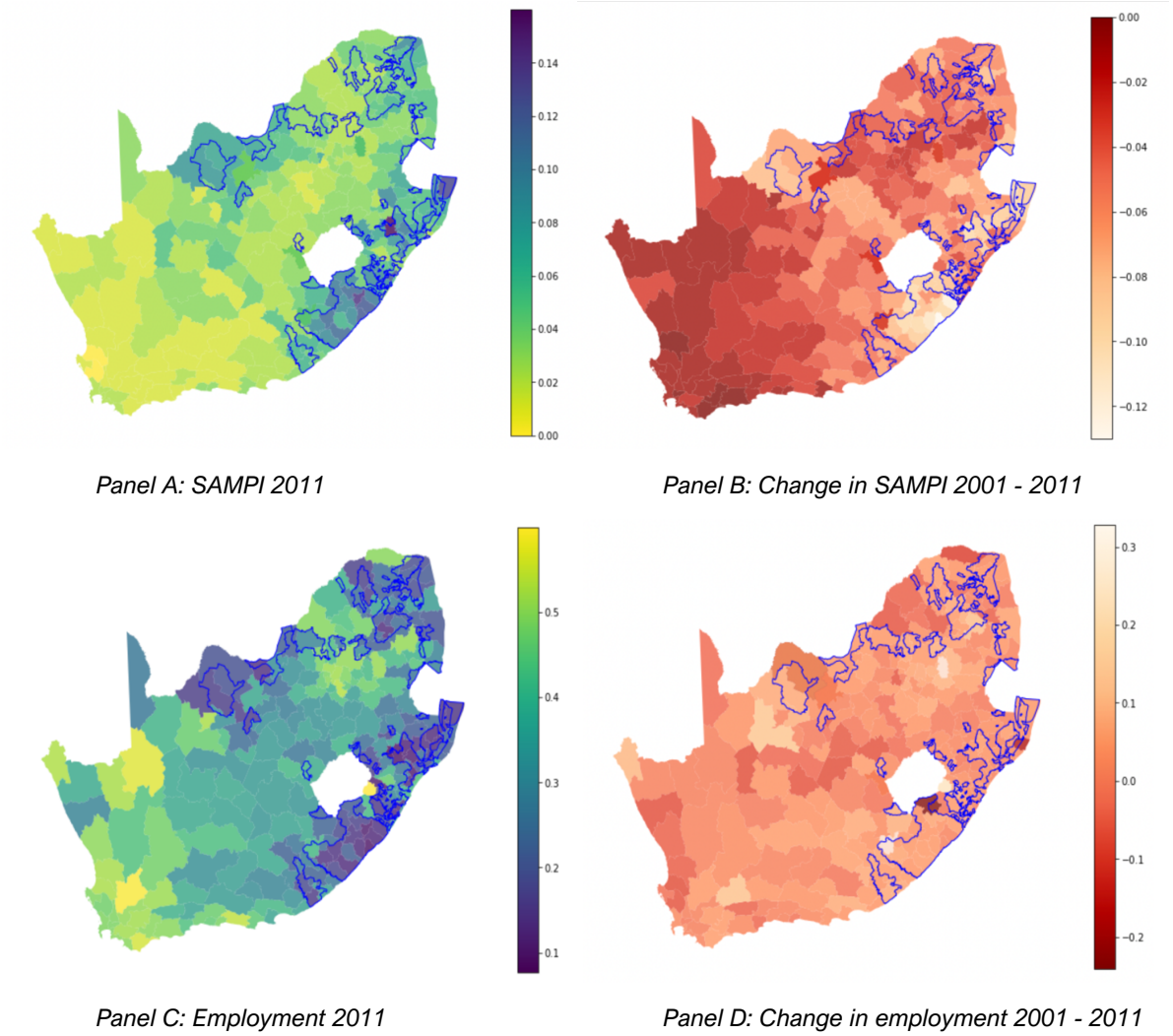
[2] See Figure 1, as well as Von Fintel (2014), David et al. (2018), Schotte et al. (2022) among others.

[3] In order to process data at the municipality level, we need to rely on the 2011 Census data, which is the most recent available data source at the municipality level. Where possible, we look at more recent data to put broad patterns into current context and find that the defining patterns remain. However, the next Census results and other spatially disaggregated data would allow for closer investigation of the patterns discussed in this paper more recently.

[4] South Africa experienced a recession in 2009, following the Global Financial Crisis, after a decade of growth averaging 4.0%. It then saw growth recover significantly to over 3% in 2010 and 2011 — rates of economic expansion that South Africa has not seen in any year since. Growth average 1.7% over 2010-2019 before South Africa entered another sharp recession due to COVID-19 impacts.

Figure 1. Employment and poverty by local municipality, 2001-2011

South African Multidimensional Poverty Index as defined by StatsSA (panels A and B), employment probability (panels C and D)



Panel A: SAMPI 2011

Panel B: Change in SAMPI 2001 - 2011

Panel C: Employment 2011

Panel D: Change in employment 2001 - 2011

Source: author's own from South African National Census of 2011. Note: blue lines represent the borders of former homelands.

This report aims to understand the economic legacy of exclusion policies that no longer exist, through analyzing the South Africa specific drivers of spatial exclusion. Although this report is not the first attempt to answer this question, we aim to provide several contributions.[5] First, we explore the spatial dimension of economic activity in South Africa using new tools and identify possible connections to apartheid policies. Second, we understand the trajectories of people who moved into employment through migration to understand what happens when an excluded person leaves an excluded place. Third, we disentangle within-area effects, identifying places in former homelands areas that have achieved relatively deeper labor markets. We explore the relationship between population diversity and economic complexity in places of

[5] For studies in this direction see, among others, Klasen and Woolard (2009), Leibbrandt et al. (2010), Neves and Du Toit (2013), Von Fintel (2014, 2018), David et al. (2018), Kwenda et al. (2020), Mudiriza and Edwards (2020), Chatterjee et al. (2022).

forced homogenization. The scope of this paper is of diagnostic nature, providing an understanding of the elements that constrain places in former homelands, and their inhabitants, in unlocking their economic potential.

2. Background

To understand the economic story of South Africa's former homelands, this section gives an overview of their history and notes several current challenges. South Africa's administrative decentralization can be traced back to its colonial roots. Through the early 1900s, in an effort to segregate the land, specific areas were set aside as reserved exclusively for Black ownership in an effort to remove the Black population from South Africa. Following the 1913 Natives Land Act and the 1936 Native Trust and Land Act, Black Africans were gradually prevented from purchasing or renting land in much of the country[6]. Reserved areas were set aside, eventually to comprise about 13 % of the country's land mass, where Black Africans could be landholders, largely in customary tenure. In 1948, a minority of Black Africans lived in these areas. In the subsequent decades, the apartheid state attempted to control black urbanization by restricting movement from these "homelands", "Bantustans", through pass laws, which restricted movements to urban centers to migratory laborers. In addition, large waves of forced resettlement of people into the homelands took place.[7] While some public investment took place to support agriculture in and education in the Bantustans, they experienced vastly different sets of public goods and opportunities from other parts of the country. For many years, industrial development within the Bantustans was discouraged.[8] Even though Black Africans experienced intense racial prejudice in the cities, and were forced to live largely in separate townships, the rural populations were increasingly disadvantaged compared to the black urban population, particularly in respect to employment. Many rural men, and increasingly women, migrated temporarily to the towns for work. "Separate development"[9] in the Bantustans, with the attempt to become independent states, became a cornerstone of apartheid. Leaders in four of them did accept a form of independence, but this intensified their marginalization from the country's mainstream socio-economic and political systems, and apartheid affected the individual well-being of those living in the homelands.

[6] During the time, many Black Africans remained on white-owned farms as laborers (Beinart, 2001).

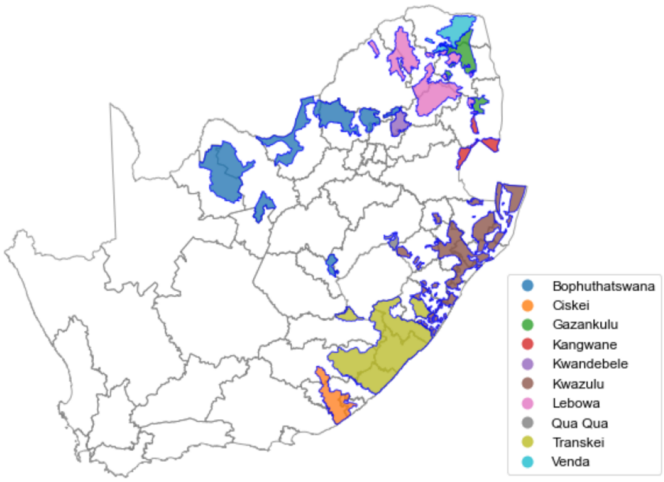
[7] These laws were only partially successful in their intended goal. In 1946, 23 per cent of the Black African population of about 8 million lived in the urban areas, and in 1991, 58 per cent of the African population of 29 million lived in urban areas (an increase from about 1.8 million to 16.8 million individuals) (Beinart, 2001).

[8] Industrial development in South Africa primarily resided in white-dominated areas, except in the later years of the apartheid regime in a failed attempt to create industrial zones in the homelands See, among others, Butler et al. (1977), Christopher (1994), Beinart (2001).

[9] 'Separate Development' is used to describe the goal of apartheid policies, granting Black Africans rights and freedoms only within the designated homelands, whereas in the rest of South Africa they were considered foreigners.

Figure 2. Former homelands in South Africa

Former homelands in South Africa, overlapping current provincial boundaries



Source: author's own from DRDLR (2004) shapefile

Since 1994, South Africa has implemented a range of inclusion policies. The apartheid policies had resulted in a major disconnectedness between the location of the population and the location of jobs. According to Todes and Turok (2018), some 43 % of the population still lived in former homelands areas after the opening of the borders in 1994, while more than half of all jobs were generated in the main metropolitan areas. Capital and knowhow were concentrated around a small share of the population (Bhorat et al., 2014). After the end of apartheid, South Africa implemented a broad battery of inclusion policies in an effort to reverse the effects of decades of economic exclusion. Todes and Turok (2018) present an extensive review of these policies. The general theory of change of these policies was built around focus on supports to individuals and families through poverty alleviation programs in rural areas, and industrial support mainly in urban areas (Oranje and Merrifield, 2010). The framework was based on a combination of policies to spur aggregate economic growth, narrow the prosperity gap between regions, and help each region build a dynamic local economy. Thirteen Spatial Development Initiatives (SDIs) targeted interventions to improve local infrastructure and facilitate new investment, three Industrial Development Zones (IDZs), and a range of area-specific interventions took place between 1996 and 2019. These are incorporated to a large extent within the current National Spatial Development Framework 2019 – 2048.

Inclusion initiatives across the country have been evaluated as being highly heterogeneous in their degree of success. Less success is observed in places with complex social dynamics (like the Wild Coast), and more success has been found in places where place-based aspects were emphasized (for example through the establishment and close cooperation with local agencies). An example of a success story is the Maputo Corridor which attracted US$6,000 million in private investment and created 65,000 jobs between 1996 and 2001 in the regions of Gauteng, Limpopo and Mpumalanga including former homelands areas (Todes and Turok, 2018). But such outcomes were not the norm. Overall problems are described mostly as a lack in cooperation with national level agencies, overly restrictive time spans, and lower than expected private investment resulting from completed initiatives. Area-based initiatives were mostly targeted on urban areas, centering on poverty alleviation in townships and revitalization

of inner cities. These initiatives are generally considered a success in their ability to deliver social infrastructure, like housing, public infrastructure, and services, but less successful in enhancing economic activity. Major challenges involved inflexibility of the national housing plan, focused on a standardized housing delivery model which oftentimes exaggerated spatial exclusion, municipal weaknesses, and an overall mismatch with economic issues facing rural areas.[10] Some of the problems that have been emphasized are a supply-driven approach to infrastructure with little understanding of the demand for such infrastructure, poor planning, and the township initiatives being somewhat insular and disconnected in geography and administration, hence leading to difficulties in bringing economic activity.

The country's institutional and fiscal architecture may further exaggerate distortions in service delivery at the local level and reinforce colonial legacies in local government. South Africa's intergovernmental system relies on cooperation between the national, provincial, and local governments, with some functions the mandate of one level but others shared across levels of government. Within municipalities, there is a further division between district and local municipalities. It is notably at this level that coordination problems are most intensive, undermining efficient and accountable service delivery. An example of this is in water provision. Some district municipalities authorize local municipalities to perform the function, while others are not authorized for the function but provide the service through an agency agreement. In these cases, since the fiscal framework needs to be aligned with the legal framework, the district municipality will receive government transfers, even though the local municipality provides the service. The pass-through of the funds from district to local municipalities often fails, which can undermine service delivery.[11] In the case of former homelands, more precisely today's communal lands areas, an additional layer of jurisdiction is added in the form of traditional authorities. This complexity paired with an ambitious modernization of local government's financial and accounting management system, places a high burden on administrations that were weak in the first place. Over-centralization of standards and requirements, disempowering of local decision-making, and the disconnect between funds and function, constrains local governance, which triggers further regulatory interventions from the national government, creating a spiral of increasing centralization and dysfunctionality.[12]

To understand spatial exclusion better, we carry out a diagnostic approach to explore how people and places broke the legacy of spatial segregation in some cases, but why such overall differences in economic outcomes persist. The complexity of the formal and informal administrative set up in the former homelands ideally calls for an analysis at a level that is highly spatially disaggregated, allowing to capture socio-economic dynamics at place levels smaller than administrative municipality borders. However, the analysis in this report is limited to the available data, which captures the local municipality level. Diagnosing employment patterns and economic constraints at the municipality level provide an entry point to understanding what constrains economic inclusion at the sub-municipality level. Within these limits, we develop a diagnostic approach that allows for the identification of variation in the degree of agglomeration at the municipality level. This approach helps identify "positive deviance" at the local municipality level, which provides grounds to qualitatively dive into where this success comes from within the municipalities, and to inform place-based policy.

[10] See Todes and Turok (2018), and Hoek-Smit and Cirolia (2019) among others for housing policy in South Africa.

[11] See National Treasury LGBER 2011: "Intergovernmental relations and the local government fiscal framework"

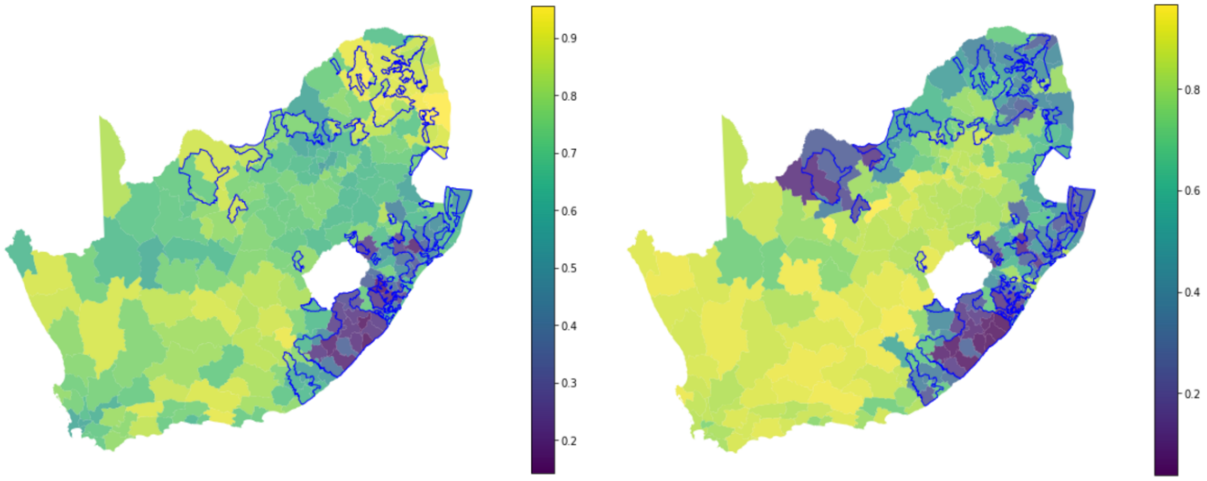
[12] See Donaldson, A., "Historical Legacies and the Architecture of Government", Architecture of Government Conference Proceedings, 2022

3. Legacy in Space

Although poverty, unemployment and inequality are still very high in former homelands, living conditions have improved in important ways and multidimensional poverty has declined since 1994. It is important to recognize the divergence of several trends. Figures 3, 4 and 5 show that expansion of social infrastructure has brought electricity and cell phone access to former homelands, improved access to health facilities, and brought levels of hunger to the national levels.[13] However, certain indicators, such as access to piped water and brick house construction remain systematically worse, at least for some former homelands. Meanwhile, according to the National Income Dynamics Study, use of bank accounts has increased from less than 20 % to nearly 40 % between 2008 and 2017 in former homelands areas but is still far below the 60 % bank account user rate of the rest of the country.

Figure 3. Housing structure and access to piped water, 2011

Share of households living in a brick house and having access to piped water



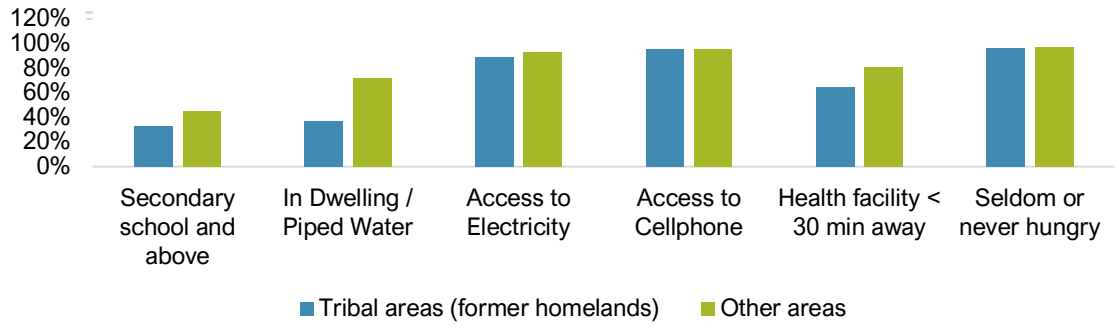
Panel A: Living in a brick house *Panel B: Access to piped water*

Source: author's own from South African National Census of 2011

[13] We rely on data from the National Census of 2011, as well as the General Household Survey. We look at the General Household Survey until 2014 since there was a change in the definition of geographic type after 2014, which, until then was categorized in "rural formal", "tribal areas", "urban formal", and "urban informal". In the subsequent years this definition changed.

Figure 4. Access to public services across geographic areas, 2014

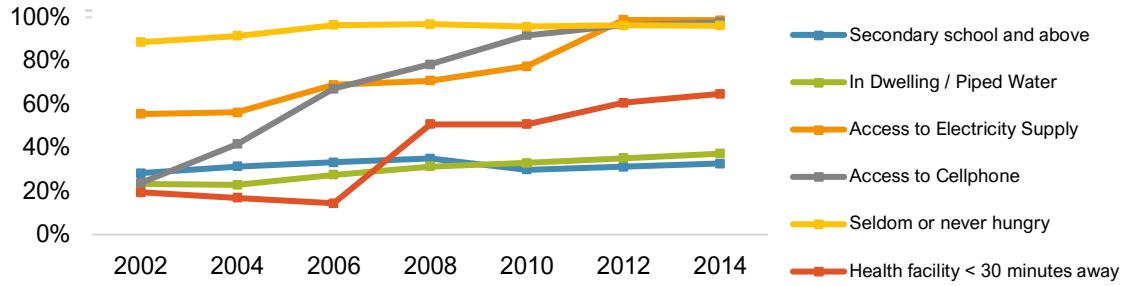
Access to education, water, electricity, cellphone, health facility and hunger



Source: author's own from General Household Survey 2014

Figure 5. Changes over time in public services in "tribal areas"

Access to public services over time in tribal areas (former homelands)



Source: author's own from General Household Surveys 2002 – 2014

Both employment rates and wage income are persistently lower in former homelands areas than in other places of the country. Figure 6 shows wage earnings on the left-hand side and employment probability on the right-hand side by geographic areas in 2014. In tribal areas[14] wage earnings do not differ strongly with respect to urban informal and rural formal areas yet are lower than in urban formal areas. A much more pronounced difference is observed for employment, which is half as high as for the rest of the country. Data from the National Income Dynamics Study in Figure 7 confirms the pattern:[15] people who live inside former homelands have a consistently lower probability of being employed, and once they find employment, their net wage income is slightly lower in former homelands yet increasing. Figure 7 shows the margins from a regression that compares people who live inside former homelands, and those who live outside.[16] Panel A shows their employment probability and panel B their real net wage

[14] We categorize as "inside former homelands" people who live in the geographic type "tribal areas", that is present in most surveys and census of South Africa.

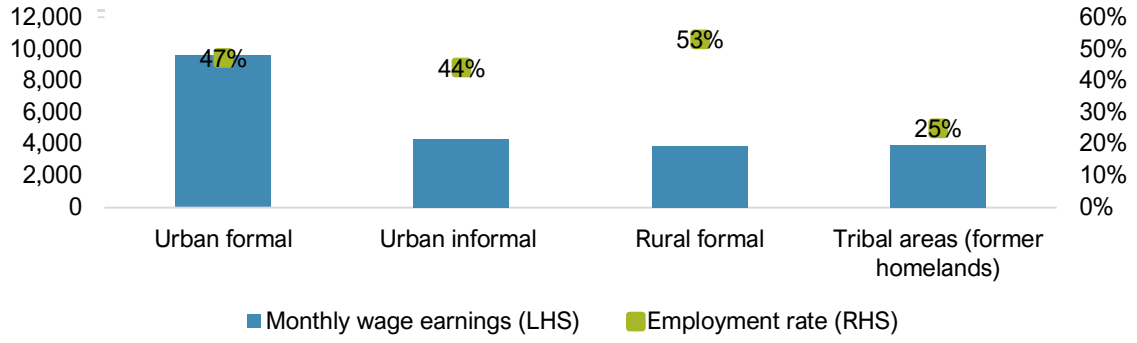
[15] We rely on the "National Income Dynamics Study" NIDS panel, which follows a group of approx. 60,000 individuals over five survey waves, between 2008 and 2017 and categorize "inside former homelands" as people who live in "tribal areas" and "outside former homelands" all other places.

[16] The margins of a regression are the predicted value of the dependent variable for each observation. When combined with a categorical variable, or two in this case, the margins represent the mean predicted value of the dependent variable *would be* if all observations had that value for the categorical variable, while all other variables

income. We include a series of control variables: age, age squared, educational level, province, and industry. We find large a large prevailing gap in employment probability between individuals who live within and outside former homelands, that is not explained by characteristics like age, gender, ethnicity, education.

Figure 6. Employment and earnings, 2014

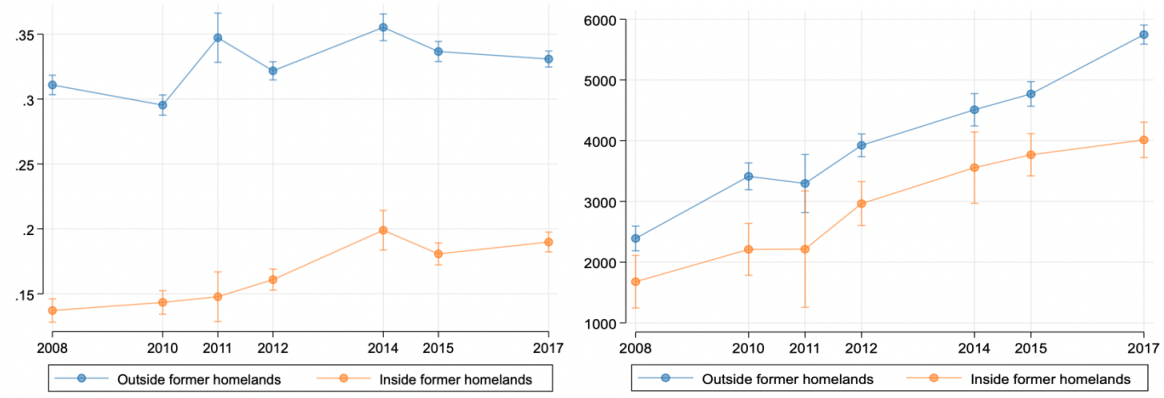
Monthly wage earnings in ZAR (LHS), employment probability (RHS)



Source: author's own from General Household Survey, 2014

Figure 7. Employment and earnings, NIDS panel 2008-2017

Employment probability (panel A) and real net income from primary occupation (panel B)



Panel A: Employment probability *Panel B: Real net from primary occupation*

Note: The graphs show the margins of a regression with the outcome variable being employment probability (LHS) and real income, CPI deflated, from primary occupation (RHS), respectively. The main explanatory variable is an indicator that shows whether a person lives inside or outside former homelands. The regressions include control variables for age, age squared, educational level, province, and industry.

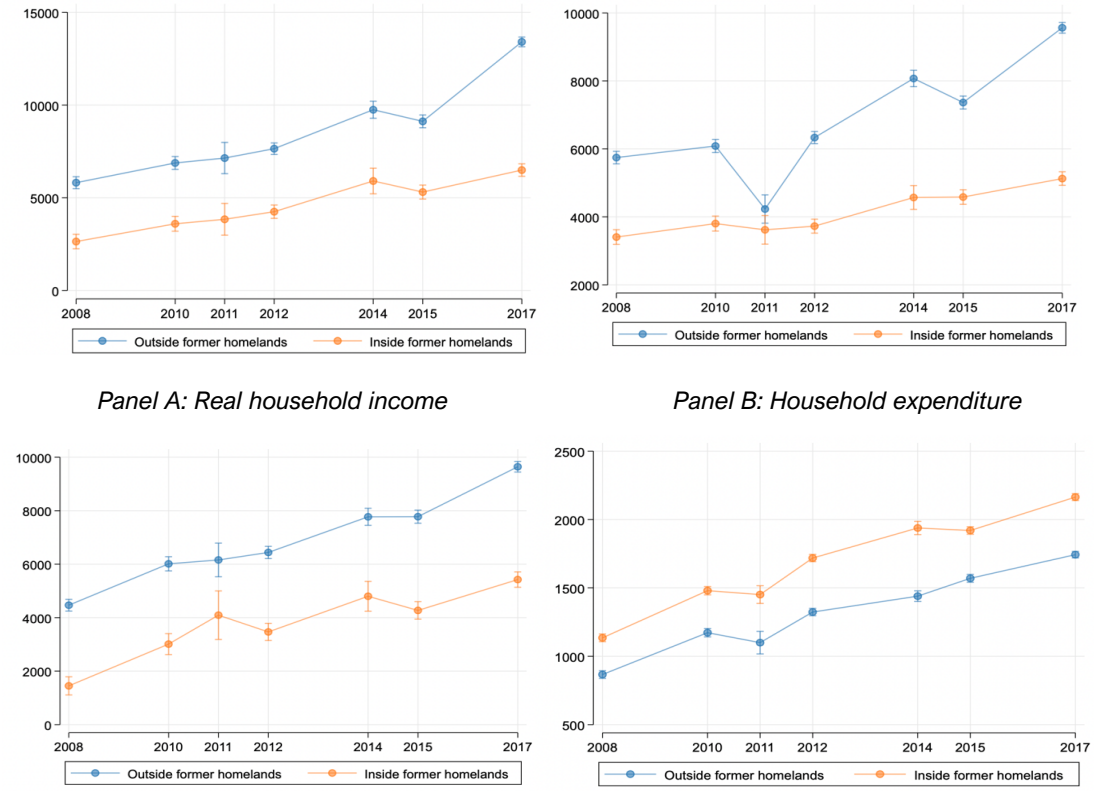
Source: author's own from National Income Dynamics Study panel

are left unchanged. For example, in figure 7, in 2017 the employment probability of any individual would be 18 percent if all people lived in former homelands. The margins can be thought of scenarios, that allow for ease of interpretation of regression results.

Household income is higher outside former homelands, but so are the expenses, and income composition differs. These patterns at the household level relate closely to those at the individual level. Figures 8 and 9 chart the income of households and disaggregated components of income (wages versus grants) based on the General Household Survey 2014 and the National Income Dynamics Study.[17] We see that in former homelands areas, the proportion of income coming from grants is sizably higher than in other geographic areas. Income from grants in former homelands is almost twice as high as compared to non-former homelands, representing more than 40 percent of the household income. Multiple studies have found that government grants sustain livelihoods in former homelands areas. Klasen and Woolard (2009) and Neves and Du Toit (2013) suggest that livelihoods in rural areas heavily rely on state transfers and state social assistance, complementing Von Fintel (2014) who shows that social grants have substantially reduced hunger and poverty rates in former homelands.

Figure 8. Household income by income source, NIDS panel

Household income by income source, NIDS panel with province controls



Panel A: Real household income

Panel B: Household expenditure

Panel C: Wage income

Panel D: Income from grants

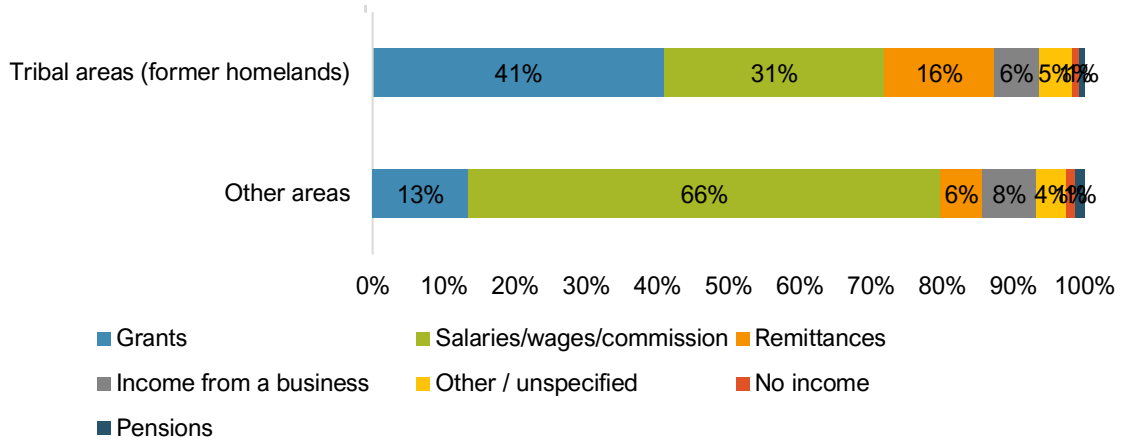
Note: The graphs show the margins of a regression with different outcome variables. The main explanatory variable is an indicator that shows whether a person lives inside or outside former homelands. The regressions include control variables for province.

Source: author's own from National Income Dynamics Study panel

[17] The regressions that result in the margins represented in the graphs are the same as introduced previously, with a different set of outcome variables.

Figure 9. Household income composition, 2014

Household income composition in percentages, by geographic areas



Source: author's own from General Household Survey, 2014.

These patterns amount to a persistent spatial legacy affecting former homelands but defy overly simple explanations. Former homelands remain worse off in key dimensions even after improvements in access to many public goods and services and substantial use of grants to support incomes. Even though poverty reduction has been more rapid in these areas, they remain poorer and there is a persistent problem of too few job opportunities despite clear efforts to strengthen local economies in a holistic way. There is a pattern where residents of former homelands are essentially compensated for their lack of access to job opportunities. In other words, the system relies on redistribution due to an effective lack of labor market inclusion. At the same time, there are many differences between former homeland areas and within former homeland areas. When it comes to improving policy approaches to achieving better outcomes, understanding these differences can be just as important as understanding differences within and outside former homelands, since areas of relative success might reflect innovative solutions that can scale to other areas. Likewise, there is a wide variety of individual experience.

To understand these outcomes more deeply, the following sections explore two dimensions of variation: people and places. By looking at the individual-level more closely, we can see if and how individuals break the legacy of spatial exclusion. Since people are mobile, this requires looking at people who leave former homelands as well as those who remain in them. By looking at the variation in outcomes of places within former homelands, we see if and how places break the legacy of spatial inclusion. It is particularly useful to see if and how some places have managed to jumpstart a process of economic agglomeration that is essential to supporting more diverse and resilient jobs. The next two sections explore people and places, respectively, we do so by exploiting a multitude of statistical resources that are introduced and explained more in detail in the appendix of this report.

4. Breaking the Legacy: People

When people can move freely, they self-select into labor markets that reward their skill. During the period of apartheid, policies of forced resettlement and forced labor migration undermined an important channel in the development of livelihoods for people. Self-selection into migration occurs when people decide to move away from their current place of residence, optimizing their decision about what markets they want to participate in. Migrants self-select into the decision whether to emigrate, and where to emigrate to. Following the earliest model of population movement, the so-called Roy model (Borjas, 2014), people will move where economic opportunities exceed the ones in the current location. In equilibrium, people will move to where they have the highest possible employment chances for their skill set and can get the highest possible reward. Once the apartheid policies ceased to exist, the selection-into-migration channel re-opened. In this section we aim at understanding whether the poor economic outcomes in former homelands are *people* driven, in which case we would observe that people cannot create livelihoods elsewhere either.

South Africans migrate internally in the post-apartheid period, and this includes individuals from former homeland areas. When we look at how many South Africans lived in 2011 in a municipality different from where they lived in 2001, we find that 19% of South Africans changed municipality of residence. Ginsburg et al. (2016) further find that there is a large share of temporary migrants, up to 25% of the population, who is following opportunities. In order to understand pathways into employment by people in former homelands, specifically through the channel of migration, we follow the path of internal migrants, who lived in former homelands and were unemployed initially.

Unemployed people from former homelands areas find employment through domestic migration. We follow a sample of people in the NIDS panel who were resident inside former homelands in 2008 and were unemployed, and we explore differences for those who remained in former homelands versus those who left.[18] Figure 10, Panel A shows that the overall employment probability of this group of people increases over time, and that the increase is much more pronounced for those who migrate out of former homelands areas. The graphs are margins of a regression of employment probability on an indicator that indicates whether the individual currently resides inside or outside a former homeland area (proxied by the geographic type “tribal areas”) and individual fixed effects. By adding individual level fixed effects, we catch the trajectory of each person, ruling out that the effect is driven by any time-invariant personal demographic characteristics. This first finding confirms the hypothesis of self-selection into migration being an important force for the development of people, and is in line with recent research by Visagie and Turok (2020), who find that two-thirds of rural-to-urban migrants who were poor in 2008 managed to exit poverty by 2014, adding up to approximately 385,000 people nationwide.

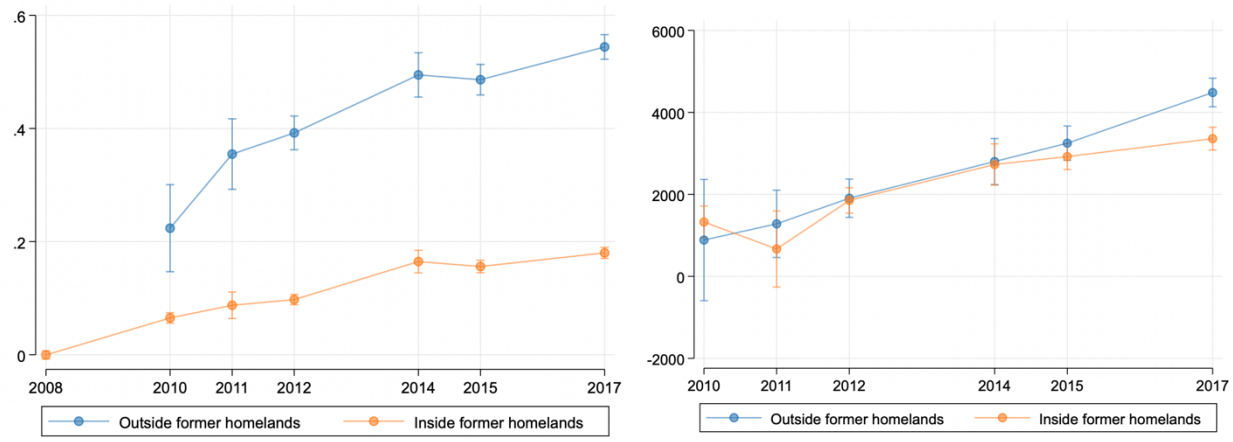
Migration occurs in search of employment opportunities, not necessarily higher wages. Panel B in Figure 10 shows that real wage income does not significantly differ between those people who find employment outside former homelands, and inside former homelands. This suggests that people migrate in search for employment opportunities, which are very limited

[18] It is important to note in this setting that we might observe a “survivor bias”: the people who might not find jobs outside former homelands areas might migrate back. To check the robustness of our result, we run the same regressions with all individuals who lived in former homelands, and were unemployed, at any point in time. This increases the sample and arrives at the same results.

inside former homelands, while they are not earning higher wages if they find a job outside former homelands. Overall, the big difference in employment probability (almost three times as high outside than inside former homelands) leads to a sizeable benefit from migration. Furthermore, seven years after migrating, migrants reach an employment probability of close to 60%, which matches the average employment probability of people living outside former homelands (see Figure 7).

Figure 10. Employment probability and real wage income by internal migration

Employment probability (Panel A), real wage income (Panel B) inside and outside former homelands, for people who lived in former homelands and were unemployed in 2008



Panel A: Employment probability

Panel B: Real wage income

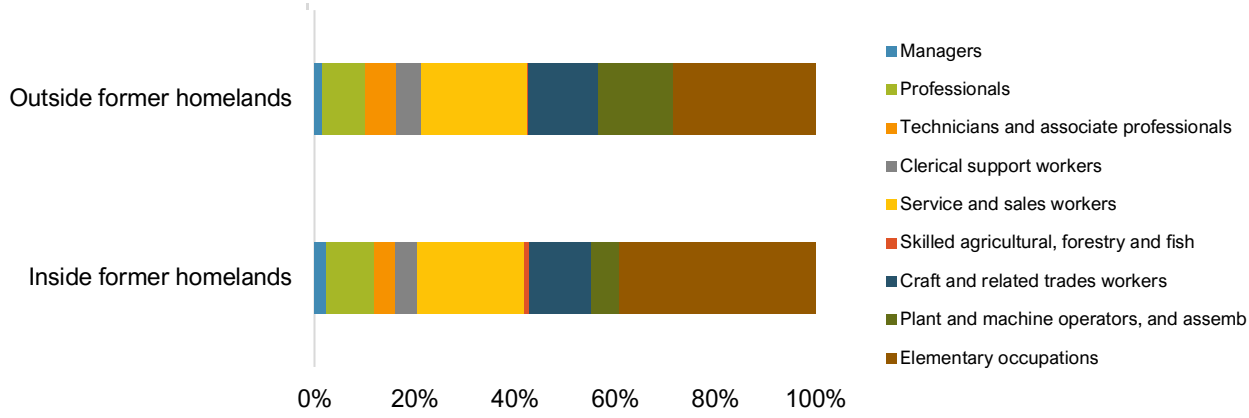
Note: The graphs are margins of a regression of employment probability (Panel A) and real wage income (Panel B) on an indicator that indicates whether the individual, that in 2008 was living in former homelands and was unemployed, currently resides inside or outside a former homeland area (proxied by the geographic type "tribal areas") and individual fixed effects.

Source: author's own from National Income Dynamics Study panel

Employment in manufacturing differs most between those people who found employment in former homelands, and those who moved outside. Figures 11 and 12 show the occupational composition and industry composition of our restricted sample of people who find employment inside and outside former homelands. The composition appears relatively similar, except for manufacturing and likewise the occupation of plant and machine operations and assemblers, which provides a larger share of employment outside former homelands areas, as well as elementary occupations and community, social and personal services, which make up a larger share of eventual employment inside former homelands. Furthermore, when compared to the overall averages in both places, this composition reflects the overall composition (see appendix of this report). This implies that people who lived in former homelands in 2008, and were unemployed, tend to have necessary skill sets to fill jobs inside and outside former homelands according to the observed trend.

Figure 11. Occupational composition in 2017

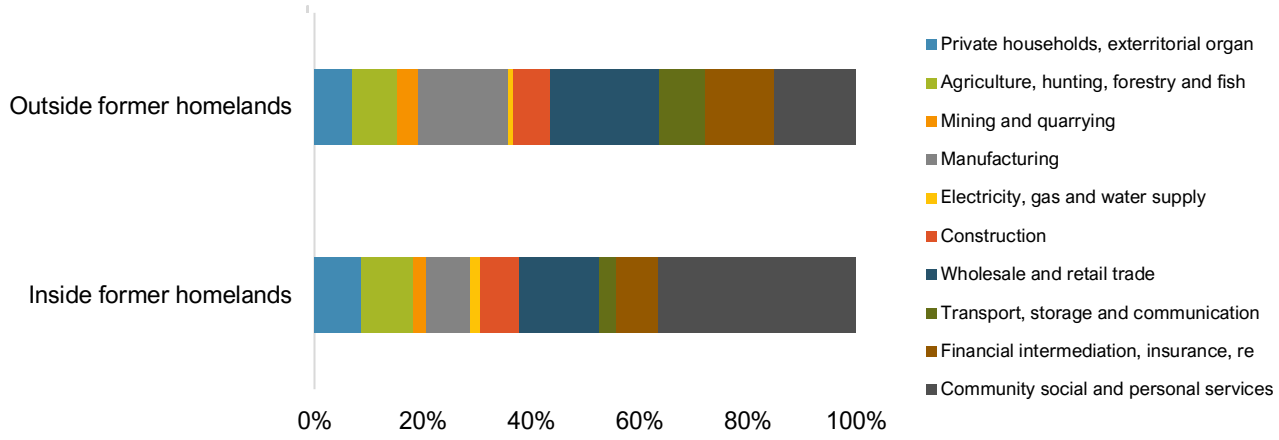
Percentage of people employed in each occupation in 2017



Source: author's own from National Income Dynamics Study panel

Figure 12. Industry composition in 2017

Percentage of people employed in each industry in 2017



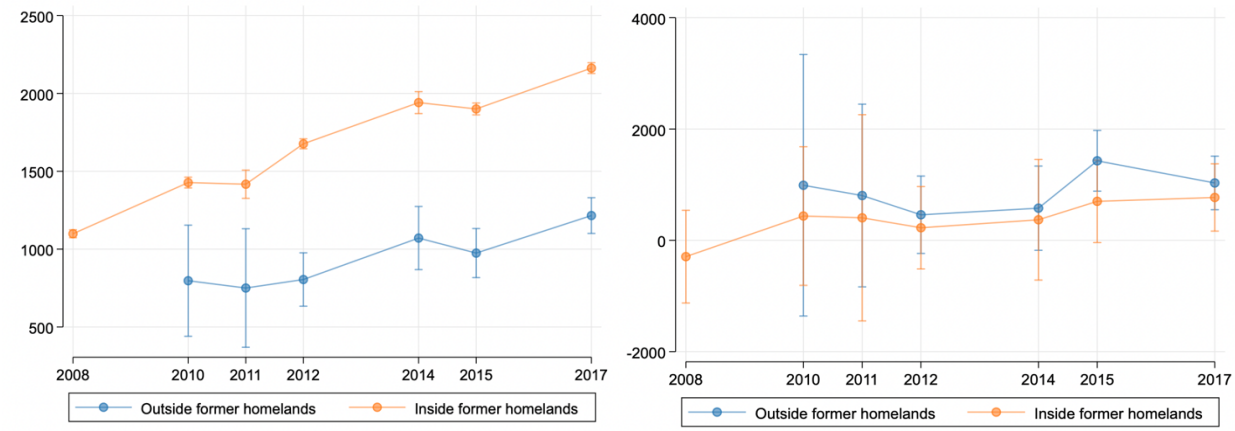
Source: author's own from National Income Dynamics Study panel

Migration affects personal and household income composition as people who migrate rely less on grants and send more remittances. Panel A of Figure 13 shows that households who move out of former homelands are less reliant on grants.[19] At the same time, when people move out of former homelands, they tend to send some more monthly remittances back home. This evidence points towards a pattern of income redistribution from workers in cities back to their original households.

[19] NIDS does not follow households over time, but individuals. Hence, capturing household level information over time might capture different households than the original one, if the individual moves across households. Those members of the household that are most likely to receive grants may, hence, remain in the original household.

Figure 13. Grant income and remittances sent, by internal migration

Composition of income, inside and outside former homelands, for people who lived in former homelands and were unemployed in 2008



Panel A: Household income from grants *Panel B: Remittances sent in the past month*

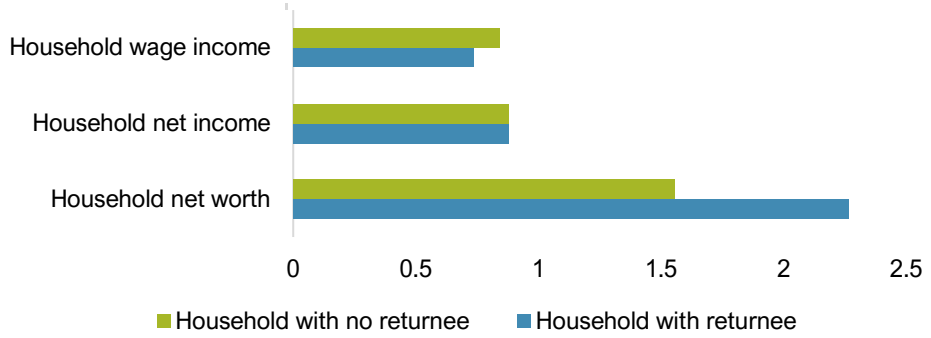
Note: The graphs are margins of a regression of household income from grants (Panel A) and remittances sent in the past month (Panel B) on an indicator that indicates whether the individual, that in 2008 was living in former homelands and was unemployed, currently resides inside or outside a former homeland area (proxied by the geographic type "tribal areas") and individual fixed effects.

Source: author's own from National Income Dynamics Study panel

Remittances from internal migrants are a channel to increase the net worth of homes in former homelands. Following the General Household Survey 2014, 23% of households in former homelands receive remittances, vis-à-vis 9% of households in the rest of the country. This makes the former homelands areas the biggest remittance receivers of the country. In terms of how much of the monthly household income comes from remittances, households in former homelands document on average 252 ZAR, as compared to an average of 121 ZAR in the rest of the country. Figure 14 relies on data from the NIDS panel to understand how remittances affect household wealth. We plot the growth rate of household wage income, net income, and net worth between 2010 and 2017. Since the data does not allow to directly track households over time, we rely on households with people who were present in 2010, absent at some point in between, and have returned by 2017. We see that households with returnees seem to have a sizably higher share in net worth than households with no returnee, whereas income is relatively similar across the two groups. We find evidence for an investment-driven remittance strategy: households who have returnees have a more pronounced growth in household net worth than households without returnees.

Figure 14. Return migrants and investment in household wealth

Households with and without returnees, income, and wealth growth rate 2010 - 2017

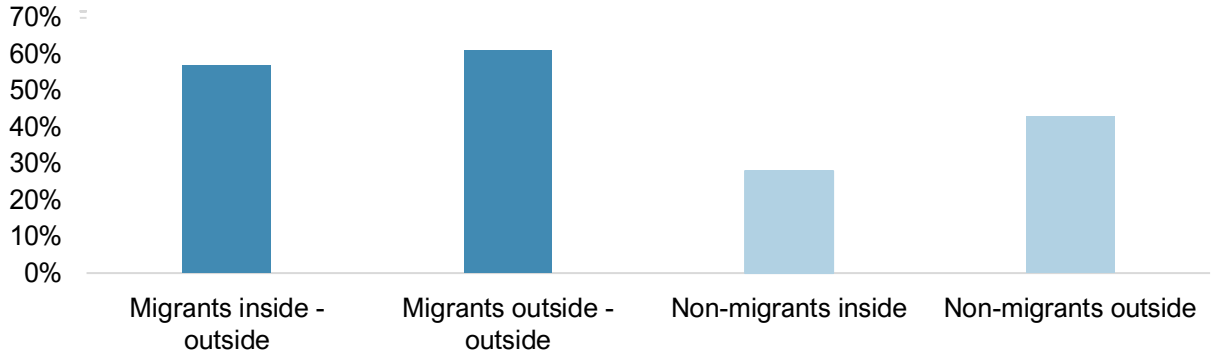


Source: author's own from National Income Dynamics Study panel

People who live in former homelands have the skills to position themselves in the national labor market. These aggregate employment success stories of people show that despite decades of exclusion from economic activity, unequal education, and other expected disadvantages that come with competing in a new labor market, internal migrants from former homelands compete in their destination labor markets just fine. Figure 15 compares migrants with non-migrants in terms of employment. Migrants outperform non-migrants in terms of employment probability, regardless of whether they migrate from former homelands to outside areas, or from outside areas. More importantly, migrants that move from former homelands to other areas of the countries are as likely to find a job as migrants who move from other places outside the former homelands.[20]

Figure 15. Migrants and non-migrants employment comparison

Migrants and non-migrants from within and outside former homelands between 2001 and 2011



Source: author's own from South African National Census 2011

[20] This finding is in line with Kleinhans and Yu (2020), wo look at labor market outcomes in the provinces of Gauteng and Western Cape.

Through the engagement in productive activity, migrants support not only themselves but also their households who remain behind. Nonetheless, it is important to note that, while migrants have a higher probability of working and supporting their families, they do often not have favorable living conditions. The rapid urbanization rebound in the post-apartheid decades overwhelms the cities and leaves many migrants in deficient housing situations oftentimes lacking basic services, and difficulties to commute to the economic centers of the cities which offer the most profitable forms of employment (see, for example, Todes and Turok, 2018). At the same time, the economy outside former homelands, most notably the metropolitan areas, is still unable to provide employment for every job seeker. People who are unable to make a living for themselves will often move back home. These people may still experience important exposure to new knowhow, which, in turn, may help them initiate new economic activities in their home villages. The important channel of knowhow exchange seems not to take hold in former homelands areas, in the NIDS panel we do not find significantly different rates of entrepreneurship between people who migrated and did not migrate, up to two periods after their return. Migration alone will, hence, not be able to provide livelihoods for every family in former homelands, nor support strong agglomeration processes within former homeland areas. Thus, we turn next to exploring if and how places have broken the legacy of spatial inclusion.

5. Breaking the Legacy: Places

In the process of development, agglomeration economies are an engine for economic opportunities. Glaeser (2010) explains agglomeration economies as the benefits that arise from people and firms locating near one another in clusters. Benefits are reaped primarily from transport cost savings as it is easier to interact economically (through trade, employment in the same activity, knowledge sharing, etc.) with a neighbor. In South Africa, forced population resettlement and relocation interrupted agglomeration economies that are crucial for economic development (von Fintel, 2018). Homelands areas had highly concentrated populations but did not industrialize to the same extent as other parts of South Africa, partly because of prohibition of industrial development in the early apartheid era. Limiting economic flows and population flows has created a gap of many decades in the access to economic opportunities, and flows of goods, financial resources, and knowhow.

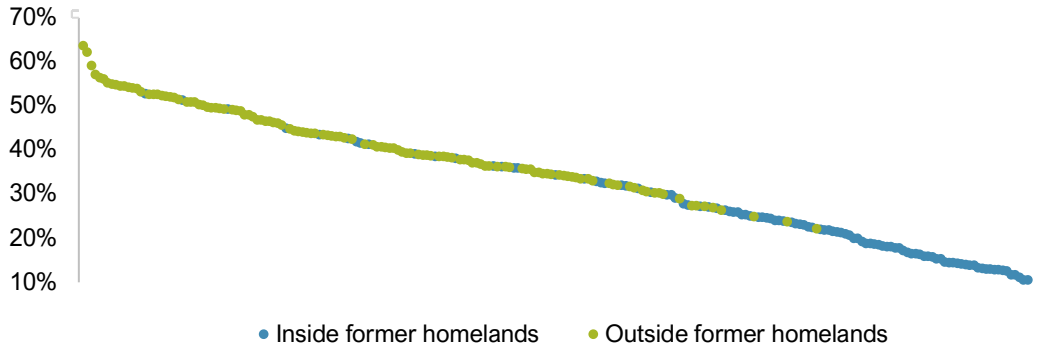
Employment rates are generally lower in former homelands, but not everywhere. Although, on average, former homelands underperform in terms of providing employment opportunities, figure 16 shows that along the distribution of employment rates at the municipality level, there is some heterogeneity. The municipality of Musina with a 53% employment rate, or Rustenburg with a 49% employment rate, for example, locate at the upper end of the distribution. These cases are the exception rather than the norm, but there are 25 municipalities inside former homeland areas that have employment rates that fall well within the distribution of employment rates of municipalities outside of former homelands (more than 30% employment).

Understanding the demographic and economic structure of places helps understand their pathways out of exclusion. Exploring the differences in the municipalities that have achieved relatively higher employment rates is a first step to understanding the drivers of these better outcomes. We do so by understanding the demographic structure of places, in particular by looking at the diversity of places that were forcedly homogenized during apartheid, and by understanding the economic structure of places that were cut off of industrial development. If

drivers can be understood, then this can inform more effective place-based strategies for including former homeland areas in the national economy. This would be beneficial for residents of those areas and also would be a boost for national growth in production and incomes.

Figure 16. Employment rate across municipalities, 2011

Inside former homelands (green municipalities), outside former homelands (blue municipalities)



Source: author's own from South African National Census of 2011

There is a very pronounced pattern where diverse places — as measured by linguistic diversity — within former homelands have higher employment rates than less diverse places. Figure 17 shows the linear prediction of employment probability for each level of diversity: 1 for the least diverse places and 5 for the most diverse.[21] This prediction shows the margins calculated based on a regression with employment probability as outcome and linguistic diversity as main explanatory variable, as well as a battery of individual and municipality level control variables: size of municipality (linear and squared), density of municipality (linear and squared), share of population that works in mining, distance to nearest city, geographic type, age, gender, and educational level.[22] Highly diverse places in South Africa have similar employment rates no matter whether they are inside or outside former homelands. However, places with low diversity inside former homelands areas have an average employment probability around 25%, whereas the same indicator lies at 45% for places outside former homelands areas.[23] This relationship between linguistic diversity and employment rates appears to matter within former homelands but not necessarily outside of them, which may speak to how these places have broken the legacy of forced homogenization.

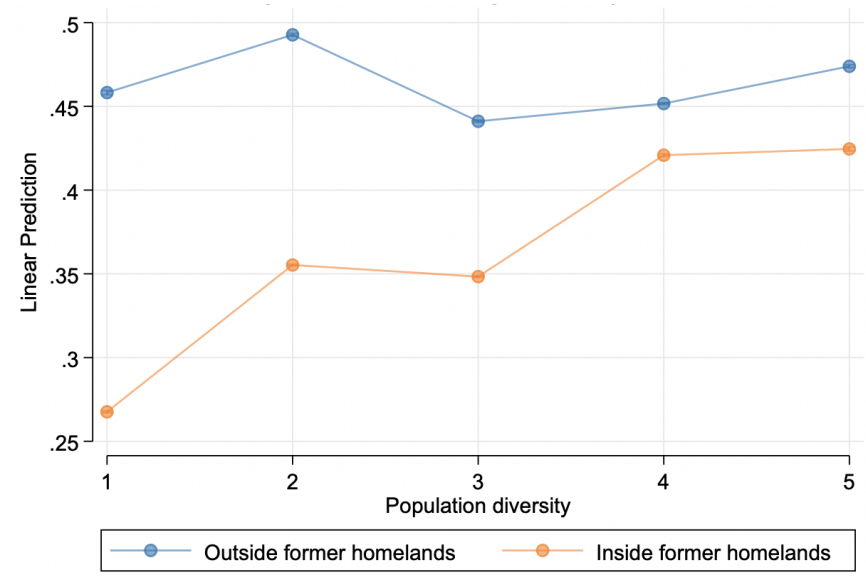
[21] We proxy population diversity with linguistic diversity by municipalities in 2011, by constructing a Herfindahl – Hirschman Index that shows the likelihood that two random people who meet in a place speak the same first language. We reverse this index, and quintile it. The higher the index, the higher the population diversity.

[22] We run a robustness test, excluding English and Afrikaans to understand whether the effect is driven entirely by those two languages. Excluding the two languages we observe the same effect for places within former homelands, and a more pronounced positive effect of diversity for places outside former homelands.

[23] We run the same regression with an indicator showing birthplace diversity and find similar results, as birthplace diversity and linguistic diversity have a significant 0.9 correlation.

Figure 17. Employment probability and linguistic diversity

Linear prediction of employment probability given linguistic diversity inside and outside former homelands



Note: Linear prediction of employment probability for each level of diversity: 1 for the least diverse places and 5 for the most diverse. This prediction shows the margins calculated based on a regression with employment probability as outcome and linguistic diversity as main explanatory variable, as well as a battery of individual and municipality level control variables: size of municipality (linear and squared), density of municipality (linear and squared), share of population that works in mining, distance to nearest city, geographic type, age, gender, and educational level.

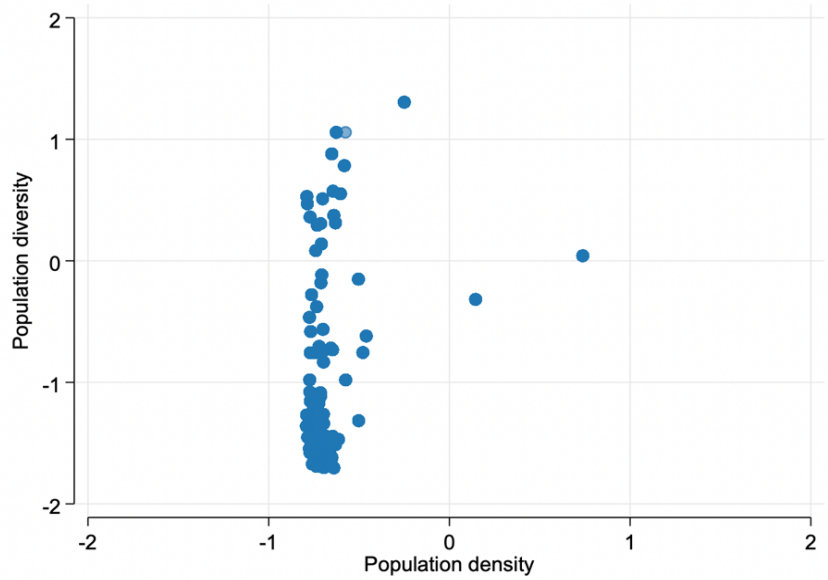
Source: author's own from South African National Census of 2011

Population diversity appears to matter more in predicting employment outcomes than density or other logical predictors. The density of municipalities is a natural indicator that relates to the ability of a place to achieve economic agglomeration, and hence more diverse and plentiful job opportunities. The above result on population diversity is after controlling for density. This is, in part, because the density of municipalities in former homeland areas tends to be very similar across municipalities.[24] Figure 18 shows that the diversity of people, proxied with linguistic diversity, in former homelands varies much more than the density of these places. These results suggest that density alone is not a sufficient condition for agglomeration economies to emerge.

[24] As mentioned in the introductory part of this report, it is important to note that density may vary more within municipalities: there may be places that are more or less dense and agglomerated. The 2011 National Census data does not allow for individual level analysis at the sub-municipality level, hence we rely on analysis at the municipality level.

Figure 18. Population density and population diversity in former homelands, 2011

Population diversity and density (both standardized) across municipalities in former homelands



Note: Population density and population diversity are standardized in this graph, hence the range of –2 to 2.

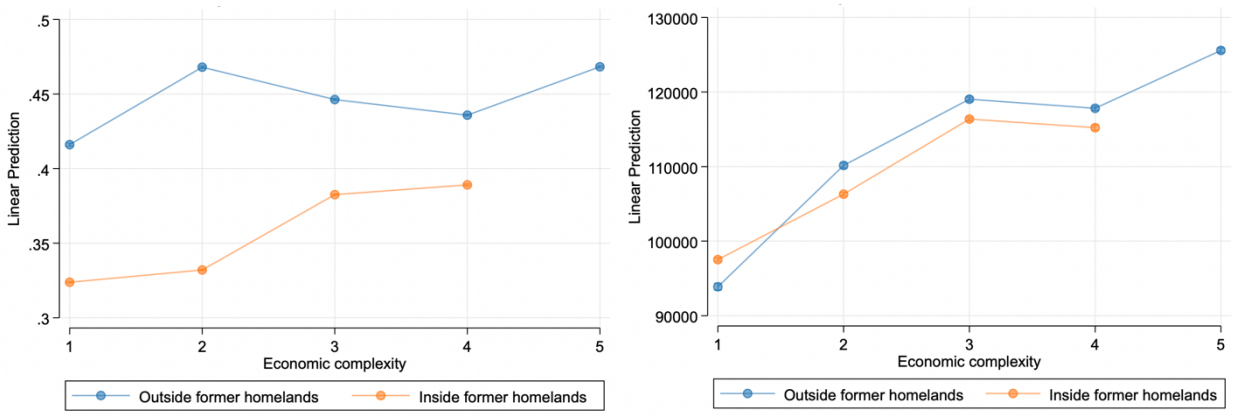
Source: author's own from South African National Census of 2011

Some places that have higher employment rates and more population diversity may be making up for lost ground on agglomeration, as evidenced by their higher economic complexity. Economic complexity is a measure of the knowhow in an economy as reflected by the industries in which it expresses a revealed comparative advantage.[25] It helps understand the economic structure of a place. Economic complexity greatly varies across South Africa, across and within former homelands, and it strongly positively correlates with population diversity (see appendix figures 3 and 4). Figure 19 shows that economic complexity is an important predictor of employment and household income — higher levels of complexity increase the employment probability inside former homelands and increase household income both inside and outside former homelands. The heterogeneity we find in terms of population diversity, economic complexity, and employment outcomes, and the robust relation between the three, suggests that there are places in former homelands that have been able to break the spell of interrupted agglomeration and forced homogenization. However, this remains the exception. Most municipalities in the former homelands still suffer from low population diversity and low economic complexity, and of course, lower employment rates.

[25] Following Hausmann et al. (2011), we calculate the economic complexity of a municipality based on the diversity of municipalities' industries (based on their employment levels) and their ubiquity of those industries (i.e., the number of the municipalities that have a comparative advantage in an industry). We create a quintile index for the ease of interpretation.

Figure 19. Economic complexity, employment, and income in 2011

Employment probability (Panel A), and household income (Panel B)



Panel A: Employment probability

Panel B: Household income (average of income bracket)

Note: Linear prediction of employment probability (panel A) and income of head of household (panel B) for each level of complexity: 1 for the least complex places and 5 for the most complex. This prediction shows the margins calculated based on a regression with employment probability as outcome and economic complexity as main explanatory variable, as well as a battery of individual and municipality level control variables: size of municipality (linear and squared), density of municipality (linear and squared), population diversity, share of population that works in mining, distance to nearest city, geographic type, age, gender, and educational level.

Source: author's own from South African National Census of 2011

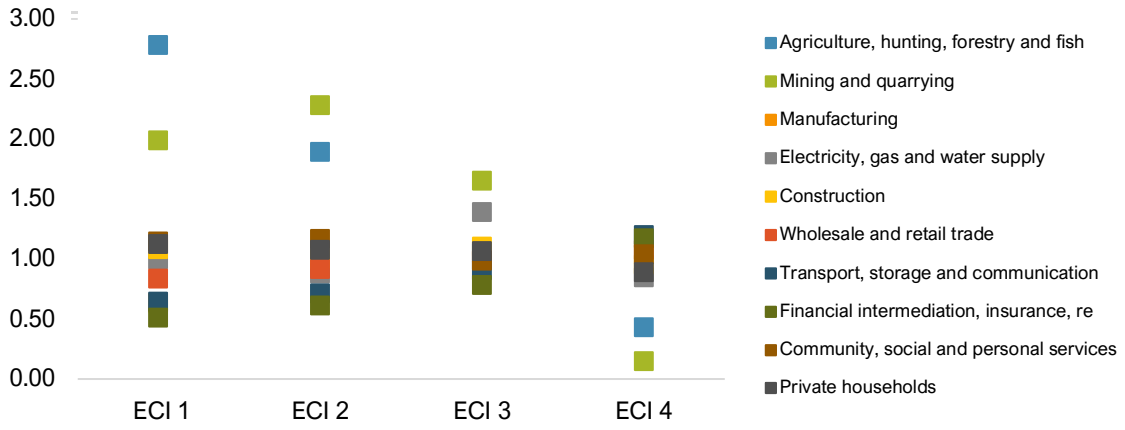
While more complex economies are on an agglomeration path, fewer complex economies are concentrated around agriculture and mining. Figures 20 and 21 show that both in terms of occupations and industry, low complexity places have a strong revealed comparative advantage in agriculture and skilled agriculture occupations, accompanied by a relatively strong presence of mining and quarrying.[26] Appendix Figure 5 shows the distribution of agricultural potential and mineral deposits across the country, showing the overlap with former homelands areas. With increasing complexity, the occupational composition of jobs also changes.[27] More complex economies have an occupational composition skewed towards legislators, managers, clerks and professionals, and a relatively high presence of transport, storage and communication, as well as financial services industries. We see that, in more complex economies, the skill and knowhow structure is skewed towards a more diverse and higher skilled labor force.

[26] The figures show calculations of an index of Revealed Comparative Advantage (RCA), based on data from the 2011 Census. The RCA is calculated as the share of employed people in occupation *i* in place *A* overall employed people in *A*, divided by the employment share of occupation *i* in the country over all employed in the country. An RCA greater than 1 indicates that the place has a revealed comparative advantage in a certain occupation or industry with respect to other places.

[27] Following the skill classification of the ILO ISCO-88 skill levels.

Figure 20. Industry RCA, 2011

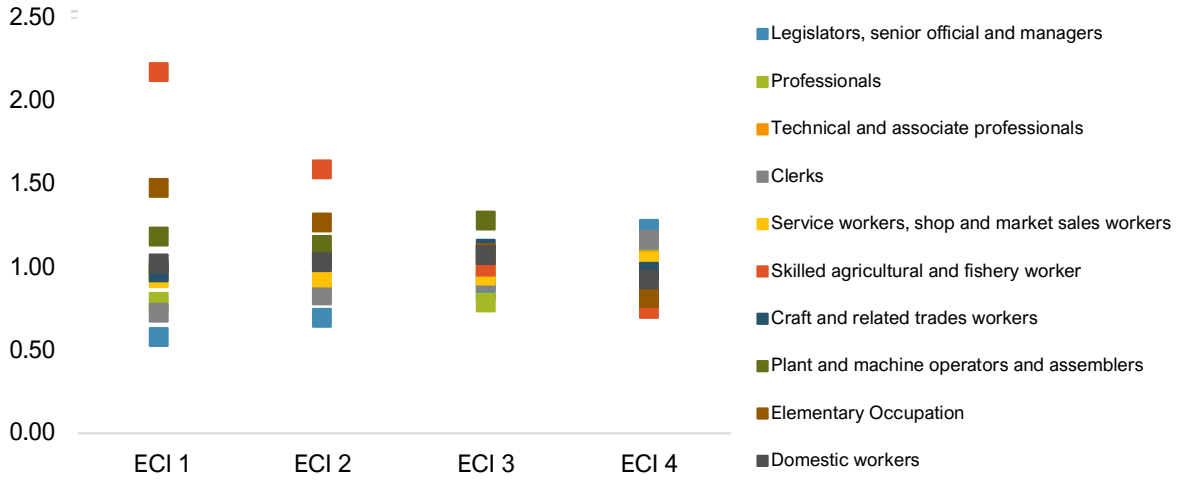
Revealed comparative advantage by ECI in former homelands in terms of industry



Source: author's own from South African National Census of 2011

Figure 21. Occupation RCA, 2011

Revealed comparative advantage by ECI in former homelands in terms of occupations

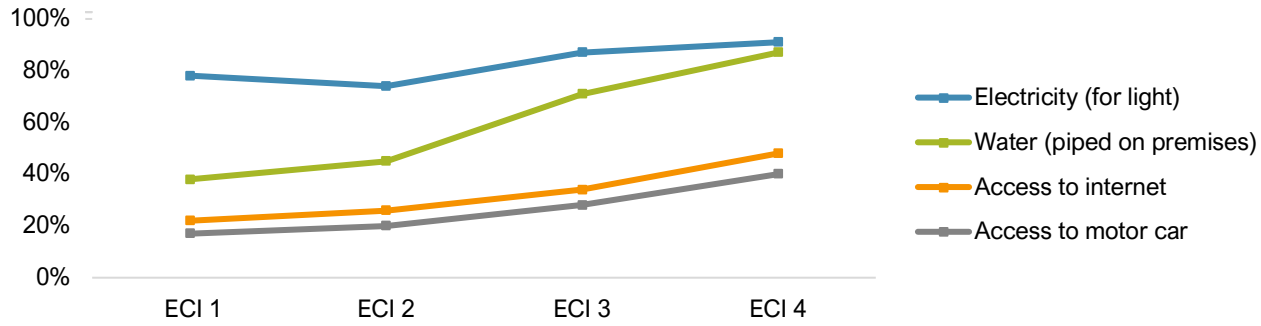


Source: author's own from South African National Census of 2011

More complex places also have better access to economic infrastructure. There is a strong correlation in the data between complexity and access to economic infrastructure. The causation behind this connection is not clear. For complex economies to function, and to create productive jobs, an ecosystem with access to these types of services is necessary. Meanwhile, paying the fixed costs to connect a place to some services (like electricity and water) often requires that he place be productive and wealthy enough to overcome initial barriers to connecting. Figure 22 shows evidence of increasing electricity, water, internet, and car access with increasing levels of economic complexity. This is especially true for piped water, which was noted earlier is an overall gap in former homeland areas. Low complexity places, in contrast, lack ecosystems that allow for more highly productive and more complex economic activities.

Figure 22. Access to selected services, 2011

Access to electricity, water, internet, and motor car by ECI in 2011

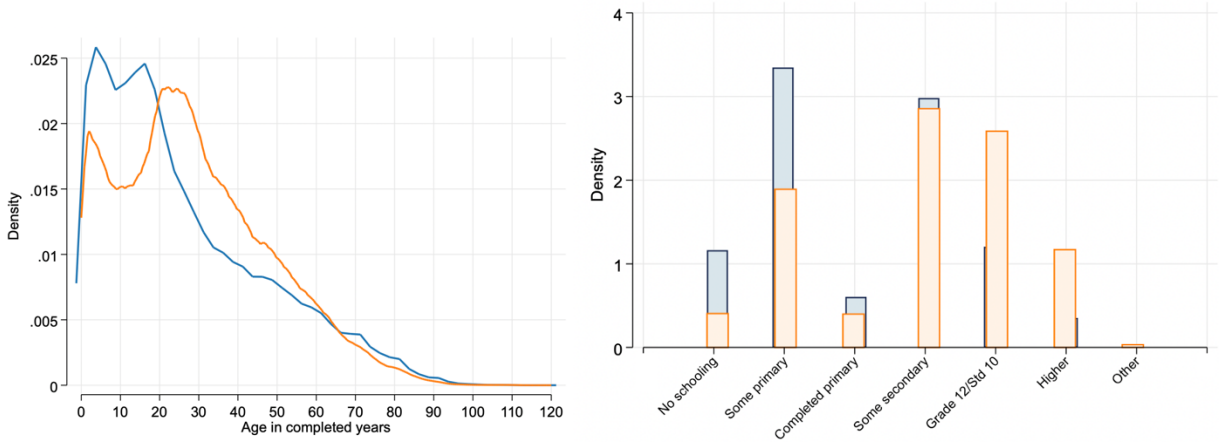


Source: author's own from South African National Census of 2011

Economies of agglomeration and economies of settlement: a polarized age structure characterizes places in former homelands. Figure 23 shows that in places that have higher economic complexity (here for illustrative purpose we look at places in ECI group 4), the age distribution is skewed towards prime working-age population between 25 and 54 years of age. On the other hand, places of ECI group 1 have a disproportionally high density of young people (less than 20 years of age) and elderly people (70 years of age and more). This suggests that there are different demographic and economic structures on the path along agglomeration. Least agglomerated places in former homelands are characterized by "economies of settlement" where grandparents live in the family homes taking care of the grandchildren and working age people are more likely to migrate for work. The most agglomerated places are characterized by a high density of working-age population. The skewed age structure also reflects in the educational composition of places. More complex places with a higher share of working-age population also have an educational composition skewed towards more highly educated people.

Figure 23. Age and education distribution

Age and education distribution, in low complexity places (ECI group = 1 in blue) and high complexity places (ECI group = 4 in orange) in former homelands



Source: author's own from South African National Census of 2011

When looking at the differences between places within former homeland areas that have higher employment rates and those that do not, both economic diversification and population diversity matter. Economies in the former homelands appear to be on different points on the path of agglomeration. There are certain places which have created a highly diverse environment in terms of population and more productive economic environments with more diverse industry and occupation compositions. Productive knowhow is generated and diffused in these environments, contributing to a functioning labor market. On the other end of the spectrum, there are places that lack working-age population and are mostly supported by income that does not come from local productive activities. Finally, there are places that may be in-between on the path of agglomeration. These patterns are promising in that they suggest that it is possible for places in former homelands to break free from past exclusion. In the following sections, we explore several policy dimensions that may help to accelerate the inclusion of more places in ways that strengthen the national growth process and create more jobs.

6. From Redistribution to Inclusion: Constraints to Agglomeration

People moved to jobs, but jobs did not come to people. Post-1994 economic development forces and inclusion policies have improved the livelihood of people. Internal migration patterns, that have shifted from restricted migration policies to opening selection-into-migration, helped connect people to jobs. Space neutral people-based policy approaches have re-opened the sorting into the labor market that rewards for a given skill set. Substantial investment in social infrastructure, through access to public services and grant transfers, have created livelihoods for people in excluded places. Nonetheless, neither economic forces nor policies have been able to generate economic activity in excluded places: jobs did not come to people.

Redistribution from productive metro areas to unproductive rural areas is the dominant development force of former homelands. These redistribution channels, in the form of public grants and transfers and private remittances, have improved livelihoods in formerly excluded areas. Nonetheless, these forces alone are not enough to support a sustainable and inclusive growth path across the country.

6.1 Connectivity: Transport and Urban Structure

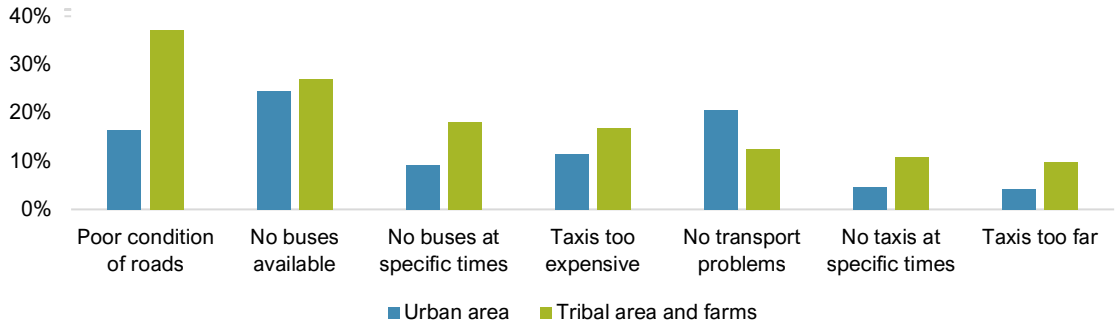
Agglomeration economies can help converge living standards across places through economic inclusion – but they need connection. Benefits from agglomeration arise from people and firms locating near each other in clusters to facilitate connection. Former homelands are historically formed in rather dense settlements, but as this report shows, density is not enough for places to prosper in economic activity. One binding constraint that forms the connection between density and agglomeration is connectivity.

Places in former homelands today still lack fundamental public transportation infrastructure. From the National Household Travel Survey 2020 we learn that poor conditions of roads, as well as lack of transport possibilities are mentioned as some of the major constraints to access employment in tribal areas. According to the 2020 National Household Transport

Survey, people who live in rural areas commute on average 48 minutes each way to work. 61 percent of people in rural areas walked, as compared to 37 percent in urban areas.

Figure 24. Transport problems of households, by area

Percent of households mentioning the following as transport problems

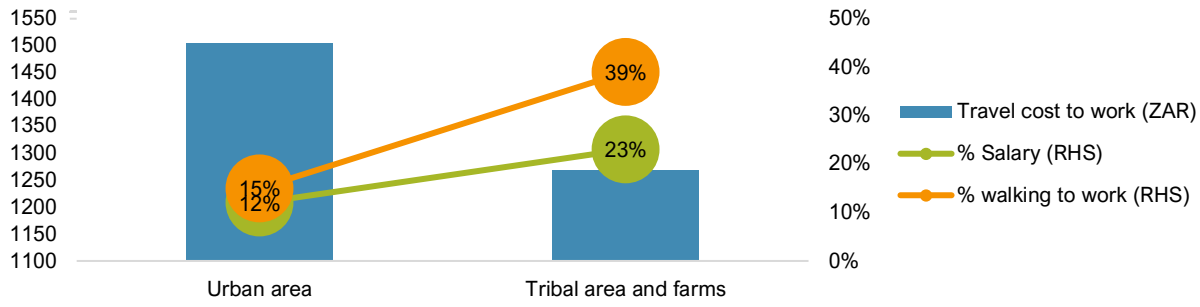


Source: author's own from National Household Transport Survey 2020

High transport costs prevail in former homelands and are not well compensated through commuting premia. In fact, one of the major reasons for not working, other than there not being employment opportunities, according to the General Household Survey of 2014 is lack of money to pay for transportation. Evidence from the SARS-NT IRP5 panel shows in addition that in municipalities outside former homelands commuters earn a premium on their salary that is twice as high as inside former homeless areas (see table 1). This tax data captures only formal economy, yet high transport cost and time are likely to represent an equally significant barrier for informal activity.[28] According to the Household Travel survey 2020, total travel cost amounts to 1267 ZAR on average in rural areas, which makes up for 23 % of the average salary, whereas in urban areas the total travel cost amounts to 12%. Furthermore, we find that, in former homelands areas, 39% of people explain walking as their main travel mode, as compared to 15% in the rest in urban areas.

Figure 25. Total travel cost, travel mode and travel cost share of salary, by area

Travel cost in ZAR (LHS) and percentage of salary (RHS)



Source: author's own from National Household Transport Survey 2020

[28] See Shah (2022) for a diagnosis of South Africa's labor market with focus on its informal sector.

Table 1. Mincer regressions: remuneration and commuting

Log remuneration, commuting and control variables

	Outside former homelands	*Inside former homelands*
Person commutes (Y/N)	0.623***	0.368***
	0.002	0.002
Age	0.264***	0.232***
	0.000	0.000
Age squared	-0.003***	-0.003***
	0.000	0.000
Gender	0.143***	0.223***
	0.002	0.002
Control variables	YES	YES
Observations	5,244,457	2,485,522
R-squared	0.2894	0.2877
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Notes: This table shows the results from a regression with log of gross remuneration as outcome variable. Column 1 shows the results for places outside the former homelands, and 2 inside the former homelands. It shows the effects of a dummy variable 0/1 whether a person commutes to work or not (place of residence is different than place of work), and a battery of control variables: age, age squared, gender, year fixed effects and main activity fixed effects.

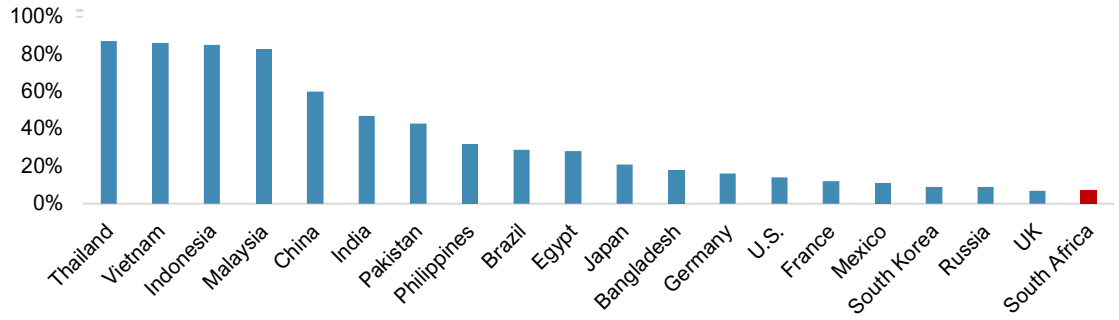
Source: author's own from SARS-NT IRP5 individual panel data

Local governments often have fewer financial resources and political power, which can lead to the exclusion of the poor from work and social services. A World Bank report by Kumar (2011) explains that in many Sub-Saharan countries the need to coordinate transport planning is recognized but not fully achieved due to lack of resources and political power of local governments. Places that are dense, yet not dense enough for fully functioning government-organized public transport, have forced people and the market to be creative in their organization of transport: a rise in non-conventional means of public transport such as minibuses and shared taxis, but also motorcycles and tricycles, is the outcome.

In an environment with lack of access to good roads, high transportation costs, high commuting times to work, and a high share of people who do their daily travel by walking, South Africa has surprisingly low rates of ownership of alternative ways of transport. Whereas in South Africa minibuses are a very popular means of transportation, the use of two-wheelers has not picked up (Kerr, 2017). Figure 26 shows South Africa's ownership rate of two wheelers such as motorcycles and scooters, as compared to other countries. In other country contexts, in which transport infrastructure is insufficient or expensive, two-wheelers and three-wheelers are an essential means of transportation and facilitate self-entrepreneurship through easing transport of self-produced goods and access to marketplaces.

Figure 26. Two-wheeler ownership in selected countries, 2016

Percentage of households owning a motorcycle or scooter



Source: author's own from Statista research department 2014

6.2 Absorption: Local Economic Capacity and Capability

Local government capability, infrastructure and resources are necessary to provide an economic ecosystem that allows people and firms to interact efficiently. Solving the connectivity issue that has prevented people and places from agglomerating will likely not fully solve the agglomeration puzzle. The connectivity constraint is a necessary condition for agglomeration to happen, yet not a sufficient one. People and firms need a range of local infrastructure to build centers of highly productive economic activity.

More agglomerated places have a better local economic infrastructure. The former homelands areas were designed to withhold the development of economic activity. This exclusion implies that places lag behind their national peers in terms of development of economic infrastructure by 40 years. This report shows that the outlier places that have been able to create a functioning labor market today, provide a better economic infrastructure. Provision of services that vital for economic activity, access to knowhow and better connectivity to markets are features that characterize more economically successful places. The previous section shows that there are places within former homelands that created agglomeration economies. These places are characterized by better services, like access to electricity, and water (see figure 22). Furthermore, we show suggestive evidence of easier access to markets, through a greater availability of access to internet and a motor vehicle. Finally, a wider range of knowhow is available in those places and is associated with higher economic complexity: the skill structure is skewed versus higher-skilled occupations (see figures 20 and 21).

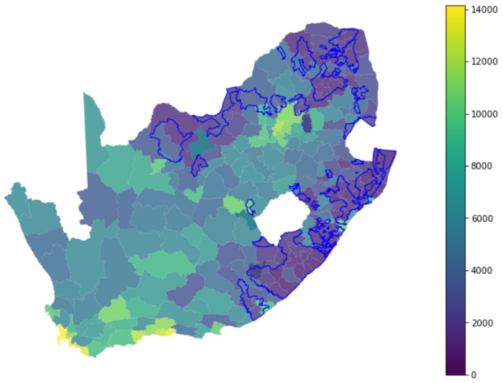
Economic infrastructure is costly and requires state capacity at the local level and coherence with the national level. From historic evidence, as well as literature on decentralization in South Africa (Wittenberg, 2003) we know that South Africa has inherited a complex administrative and political system, characterized by varying levels of formality as well as peculiar social dynamics entrenched to it. Local state capacity is particularly important in areas complex social dynamics, where formal and informal boundaries and administrative structures overlap. Tradition and local chiefdom play important roles in the lives of people in former homelands areas, forming not only an informal administrative body, but also trust in traditional institutions and high levels of local social capital (Abel, 2019). In addition to the formal boundaries and administrative bodies, there co-exist informal boundaries and administrative units, as well as communal land structures, that require infrastructure development projects that

include local knowhow and expertise in their management. Coherence, coordination, and transparency across levels of governance are equally important for the successful management of local municipalities.

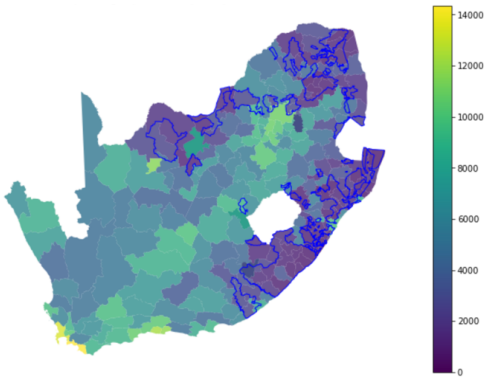
Local municipalities may lack capacity and financial resources to perform major infrastructure investments. Figure 27 shows operating revenues per capita, operating expenses per capita and transfers as percentage of total operating revenues according to the Municipal Finance Data by the National Treasury. Local municipalities in the former homelands areas have up to six times lower operating revenues and expenses than other places in South Africa. Meanwhile, they depend to a much higher degree on transfers, showing more evidence of a redistributive system from productive to less productive areas in the country.

Figure 27. Municipality budget, 2014

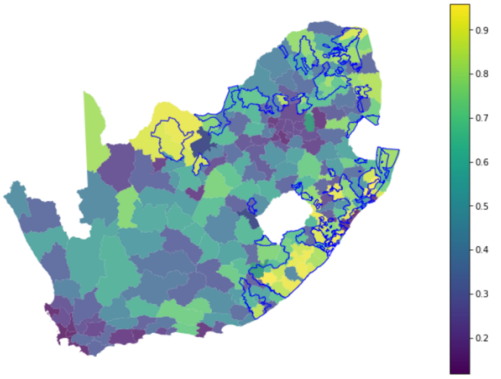
Operating revenues, operating expenditures and percentage of total transfers



Panel A: Operating revenues, deflated



Panel B: Operating expenditure, deflated



Panel C: Transfers as percentage of operating revenues

Source: author's own from NT Municipal Finance Data.

Land tenure regimes can affect investment incentives and municipal finances. South Africa's former homelands area have inherited a system of communal land regimes, without land tenure rights. Communal land is administered and distributed upon request by local tribal chiefs. The type and framework of lend tenure can affect investment incentives through several channels, such as security of tenure, using land as a collateral, and obtaining gains from trade (see Besley, 1995). De la Hey and Beinart (2017) find that lack of security to tenure is not generally seen as a constraint to productive smallholder agriculture in rural South Africa. Social

capital built over generations is trusted, and once recognized via established village processes, possession of land is arguably very secure. Findings earlier in this report provide suggestive evidence to confirm this channel, as there seem to be investments in households' net worth through remittances from migrants and return migrants. Nonetheless, land as a collateral can still present a significant barrier not only to investment in arable land, but also in other productive activities like manufacturing. In addition, property taxes are the financial backbone of local governments across the world[29]. The lack of this revenue source is evidently reflected in figure 27, which represents the budget of local municipalities.

6.3 Coordination Failures

There is no market without economic agents, and there are no economic agents without a market. In a geographic setting where both connectivity and absorption of people and economic activity is impaired, and infrastructure investments lag behind, coordination failures can arise. Coordination failures can arise when new activities require specialized inputs (or pieces of infrastructure) that are unavailable in a particular location. There are no incentives for single players (in many cases, firms) to provide these on their own. In addition, economic activity is oftentimes interconnected through the presence of demand spillovers amongst goods. The lack of one interconnected good reduces the incentive for the other interconnected good to be produced in a specific area, particularly when connectivity is difficult. From Hoff and Stiglitz (2001) we know that even if each agent knows that there is another equilibrium that would make everyone better off, agents fail to coordinate the complementary changes in their actions that it would take to obtain the desired outcome. Rent seeking and inefficient institutions are explained to further amplify such coordination failures.

Places can be trapped in low-capability equilibria when low incentives exist for technology adoption and productivity upgrading. Rodrik (1996) discusses the example of multiple equilibria with coordination failures in the case of industrial activities, where production and investment decisions in the upstream and downstream parts of industry are often interdependent. In places that otherwise possess required human resources, skill-intensive industrialization may fail to take hold. Many places in former homelands are equipped with high potential labor supply, which we see reflected in high unemployment and high internal migration rates. Furthermore, people from these places can also acquire skill sets that reflect the national labor market as we discuss in the chapter on migration. Furthermore, internal migrants are vessels of knowhow, and in many international contexts we observe increased rates of entrepreneurship from return migrants (see, e.g., Hausmann and Nedelkoska, 2018). Nonetheless, we do not observe this in South Africa at a significant scale. The existence of some scale economies, with interconnected upstream and downstream parts of industry, paired with imperfect tradability in space of some of the goods, services, technologies or knowhow associated with these activities, helps explain why we don't observe higher levels of economic activity in places with human resources. Even if there are people who would be willing to work, and people who have the knowhow to perform economic activities at different skill levels, coordination failures can keep places trapped. The externalities arising from coordination failures, which keep places trapped in a low equilibrium in multiple equilibria setting, allow us to partially understand why the current spatial equilibrium is not self-correcting over time.

[29] In the USA, in the fiscal year 2016 property taxes generated more than 70 % of local tax collections, according to the 2016 State and Local Government Finance Historical Datasets.

7. Conclusions and Policy Implications

Since the end of apartheid, South Africa has implemented a range of policies to tackle its spatial inclusion challenge, but these have not reversed a pattern of deep spatial exclusion in economic activity. Investments in social infrastructure, as well redistribution from highly productive urban cores to historically disadvantaged areas in the form of government grants and transfers to individuals and households, have improved the livelihoods of people in the former homelands. Yet, for reasons explored in this report, economic activity still lags in these areas.

Our analysis suggests that people-based policies are unlikely to sufficiently address what is primarily a place-based problem. This is not to say that people-based policies do not have an important impact on peoples' wellbeing. Investments in people through education and health for example, have improved the livelihoods of those from the former homelands areas. People-based policies maximize the chances of people to successfully participate in the national labor market. Internal migrants reap benefits for themselves through increased access to employment and wage income when they move outside of former homelands areas. In turn they provide benefits to their families who remain behind through remittances, for example investing in family housing and assets. Nonetheless, we observe limited spillovers on the places left behind. Investments by migrants and return migrants tend to be limited to their own homes and properties, with few examples of the appearance of community-level public goods (e.g., public water sources or roads) that could crowd in more business activity. On top of the monetary aspect of remittances, we observe limited inflow of knowhow and productive capital, both of which are vital to local job creation. The full extent of benefits that arise through internal migration and return migration cannot be reaped without complementary place-based policies, which allow for a local ecosystem that can attract and capture the returning knowhow and capital.

Place-based policy implies a thorough understanding of the local socio-economic space, with its capabilities, opportunities, and constraints. These differ not only across, but also within municipalities. Within the limits of existing data, our diagnosis allows identifying municipalities that have shown signs of positive deviance in terms of agglomeration, diversity, and employment. Learning where the deviance comes from *within* these municipalities, that is, finding the places that are attracting people and economic activity, will be fundamental in understanding how to best support these nascent places of agglomeration. In, what the *National Spatial Development Framework* defines as "dense rural settlements" (settlements that may be too dense for commercial agriculture, and too sparse for the economies of an urban center), case studies of the social, economic, and geographic environment could be building blocks for place-based policy frameworks, alongside an in-depth study of the binding constraints of their nascent and adjacent industries. Place-based policy thus benefits from a thorough understanding of the localized economy, while being aware of the surrounding economic sphere. Adjacent economies are vital in providing economic linkages between the places that are growing and the places that are struggling, such as market access, labor market expansion, transport and logistics access to more distant markets, and other location-specific economic infrastructure.

Improving productive knowhow in former homelands will require building the adequate institutions to detect the unique needs of different places and provide the public-public and public-private coordination that is required for these needs to be met. Following the logic of an approach that builds on the recognition of place-specific economic opportunities and constraints, "one-size-fits-all" approaches are bound to fail. Local state capability building, as well as a well-defined framework of transparent cooperation and coordination across administrative levels, will be a key determinant of success for any place-based policy framework. The architecture of government, as explained earlier, may pose significant challenges of coordination and constraints to the efficient provision of services. It follows that, as "one-size-fits-all" approaches won't lead to desired outcomes. Rather, context-specific strategies and public investments are needed, particularly to connect disconnected areas to larger economies and networks of productive capabilities. Investment promotion at the subnational level may be able to catalyze the expansion of productive firms into new geographies, as discussed in the industrial policy framework presented by Fortunato (2022).

While long-term changes will be needed to increasingly connect disconnected economies across the country, and ultimately lead to greater density, some transportation improvements could help to overcome lack of density in the short-term. While a long-term urban development agenda takes time to be designed and implemented, there are short-term relief options that could bridge some connectivity and absorption constraints. The provision of alternative modes of transport, which can replace long walking distances yet do not require a sophisticated urban transport network can provide short-term relief in some contexts. Increased use of motorcycles and bicycles may help shorten commuting times of personal commutes, work commutes and transport of small produce to sell in local informal markets.

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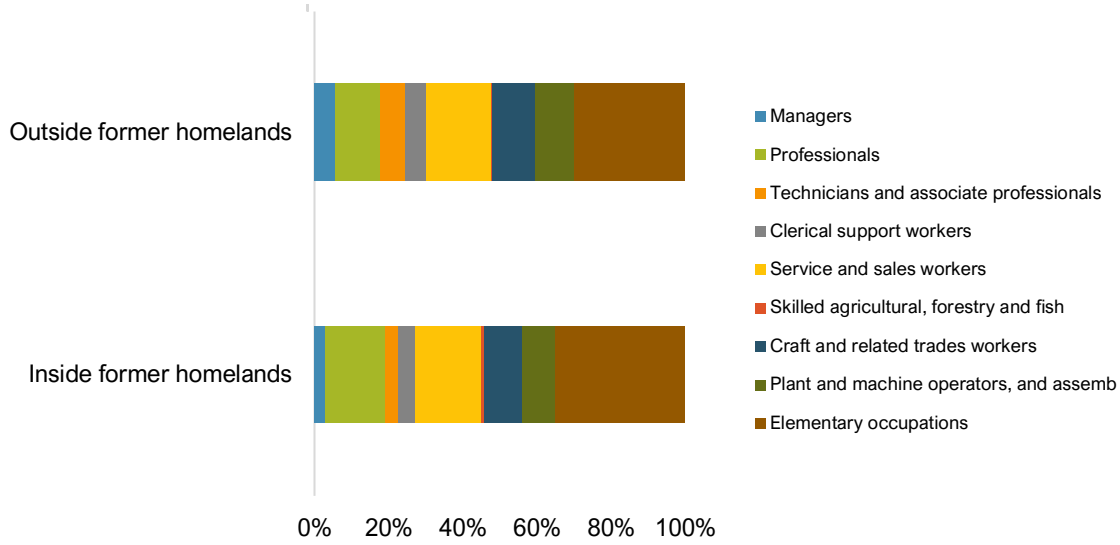
Appendix

Appendix 1: Data sources and variables construction

In this report we rely on a multitude of data sources and two different ways of defining former homelands areas. Due to different levels of spatial aggregation across data sources, as well as changing definitions of urban / rural areas over time, we rely on several data sources and on less recent years. For the General Household Survey, we work with years up to 2014. Until then, the geographic zone where people lived was divided into “urban formal”, “urban informal”, “rural formal”, “tribal areas”. We proxy former homelands areas with “tribal areas”. The same categorization is used for the National Income Dynamics Study panel, which follows approx. 60,000 individuals over five waves between 2008 and 2017. We furthermore work with data from the South African National Census 2001 and 2011, which includes information at the household and individual level, and disaggregated at the municipality level. We do not work with census data that was collected during the apartheid regime due to incomplete representativeness of the population during these years. We rely on spatial data that defines former homelands boundaries, and municipality boundaries, and overlay both boundaries to define which municipalities are “inside” and which are “outside” former homelands areas. We define municipalities “inside” former homelands those municipalities whose territory completely or partly overlaps with former homelands borders, and “outside” those municipalities whose territory is entirely outside former homelands borders. Most municipalities’ territory is not fully inside former homelands borders, which poses a constraint to our analysis. 55% of South Africa’s population lives inside former homelands areas, and 45% outside, according to our definition.

Appendix F1. Occupational composition in 2017

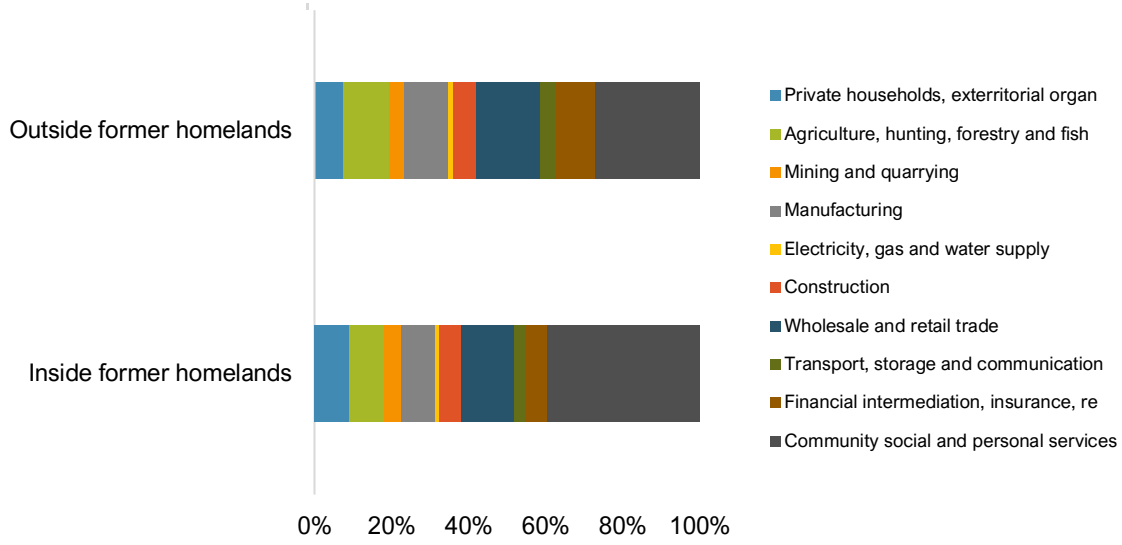
Percentage of people employed in each occupation in 2017



Source: author’s own from National Income Dynamics Study panel

Appendix F2. Industry composition in 2017

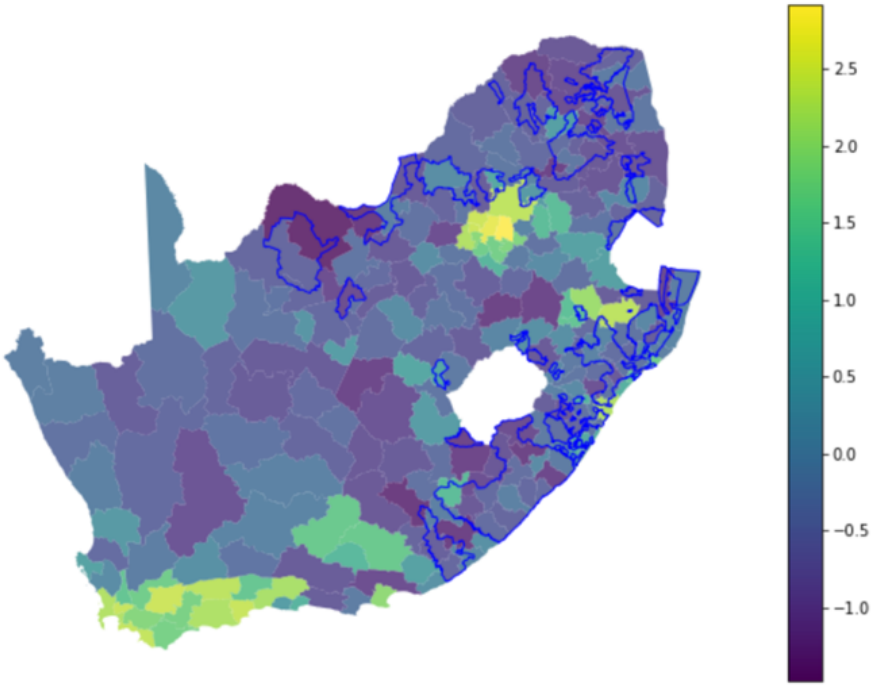
Percentage of people employed in each industry in 2017



Source: author's own from National Income Dynamics Study panel

Appendix F3. Economic complexity in 2011

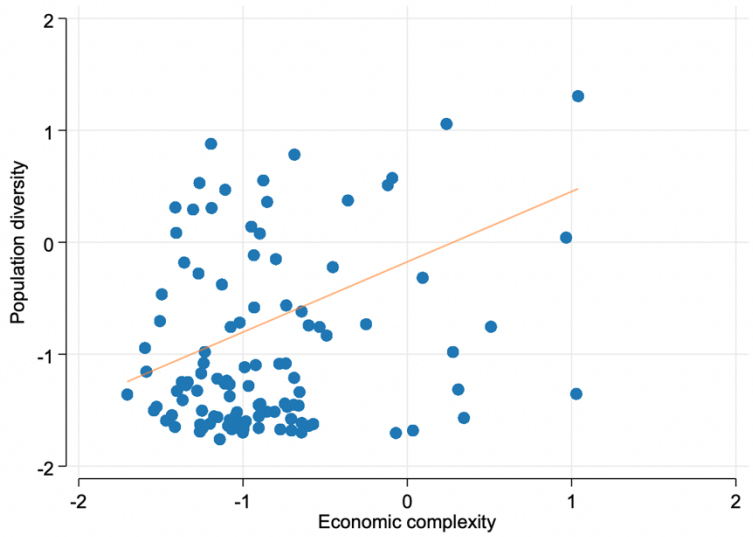
Economic complexity index at the municipality level in 2011



Source: author's own from South African National Census of 2011

Appendix F4. Population diversity and economic complexity, 2011

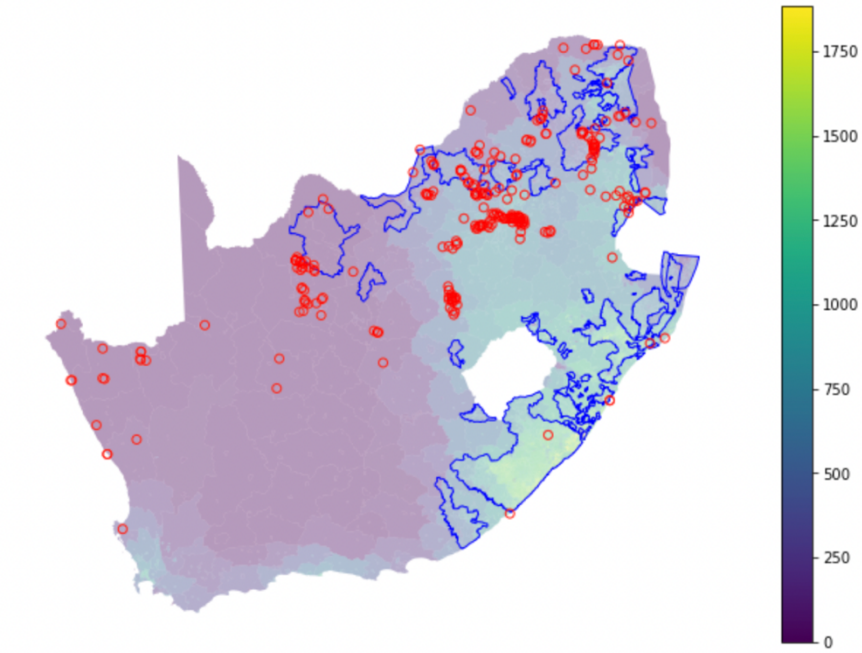
Correlation between population diversity and economic complexity (both standardized) inside former homelands



Source: author's own from South African National Census of 2011

Appendix F5. Agricultural potential and deposits across South Africa

Red dots show deposits, heat map shows agricultural potential in USD



The unit is $/ha. The list of crops included are banana, barley, groundnuts, maize, oat, oil seeds, sunflower seeds, soybeans, sweet potatoes, sorghum, sugarcane, wheat, white potato. We use FAOStat average agriculture price for each crop to convert it to $ value and aggregate all the crops into one single $ value.

Source: author's own from FAO "Global agro-ecological zones" and US Geology Survey Data Portal "Major deposits"